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AUGUST 2022

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NEWS

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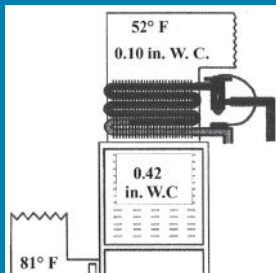
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Editorial Focus

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

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Troubleshooting

In this month's troubleshooting situation, the customer's complaint is that their 4-ton split system isn't cooling enough.

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Indoor People

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

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Legislative Update

Bills Affecting HVAC Contractors Continue to Move through Legislature

By Ted Rieger
Northern Calif. Correspondent

The Contractors State License Board (CSLB) reviewed current bills in the California Legislature related to contractors and CSLB operations at a Board meeting in Sacramento June 16. Two CSLB-sponsored bills continue

to move through the Legislature that would directly impact some C-20 HVAC contractors – one requiring workers' compensation insurance for all licensed C-20 contractors effective July 1, 2023; and another bill to increase the maximum fine for failure to obtain required building permits from \$5,000 to \$30,000 for all contrac-

tors. In addition, a bill requiring the California Energy Commission to develop and maintain a HVAC equipment repository and registry and compliance tracking system is moving through the Legislature. August 31 is the last day for each house to pass bills, and September 30 is the last day for the Governor to sign or veto bills.

HVAC Equipment Registry, Compliance Tracking System
SB 1164 Stern (D-Los Angeles) – Building Energy Efficiency, HVAC Equipment Sales Registry, Compliance Tracking System, Document and Data Registry. When first introduced this year, this bill was to require the California Air Resources

Board in consultation with the California Energy Commission (CEC) and the CSLB to submit a report to the Legislature by July 1, 2023 proposing a statewide HVAC equipment sales registry and compliance tracking system. Following amendments in June,

Continued on Page 14

Indoor People

Daikin Applied CEO Schwartz Retires

Daikin Applied Americas announced that President and CEO Mike Schwartz intends to retire from his position at the end of this month.

Schwartz has been the president and CEO of Daikin Applied Americas (DAA), a member of Daikin Industries Ltd., since September 2011. When he joined, he was charged with transforming a complacent organization into a high



performing contender in the marketplace. Since 2011, he's met the challenge with resounding success:

1. DAA increased manufacturing capacity by 75%
2. DAA doubled the employee base to

4,900 including throughout North, Central, and South America

Continued on Page 14

AHR Expo Announces Open Call for 2023 Innovation Awards

Entries accepted through August 9, 2022.

The AHR Expo (International Air-Conditioning, Heating, Refrigerating Exposition) is now accepting submissions for the 2023 Innovation Awards. Exhibitors are encouraged to enter recent or upgraded products for the competition. Entries are welcomed through August 9, 2022. The 2023 AHR Expo will return to Atlanta at the Georgia World Congress Center Febru-



ary 6-8, 2023.

"If Vegas is any indicator of what's ahead for HVACR, then

Atlanta will certainly be an impressive showing," said show manager Mark Stevens. "Our ten category winners and 2022 Product of the Year winner, Danfoss, blew us away with innovative solutions that demonstrate just how revolutionary the technology within this industry is becoming. It's really a remarkable gauge of just how fast this industry is moving," continued Stevens.

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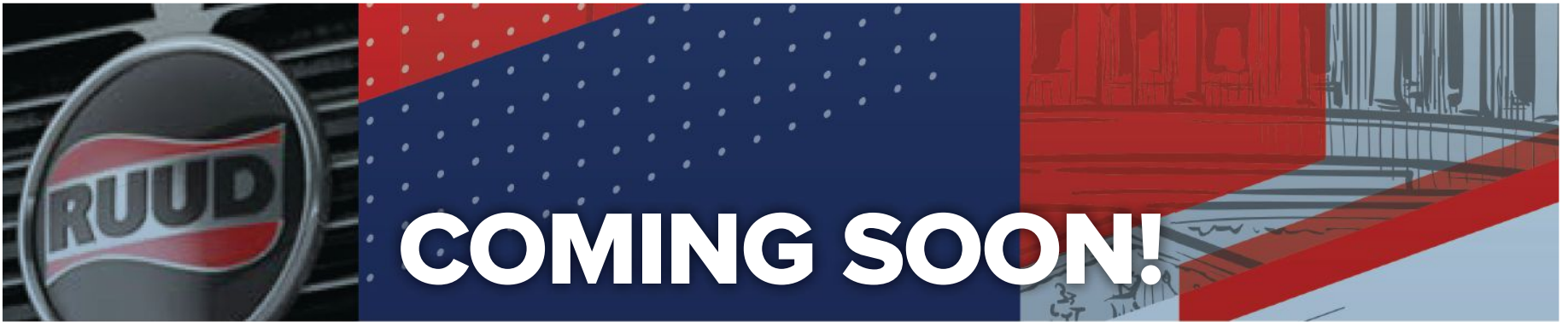


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Industry News



CALIFORNIA



CSLB Sting Locations Needed

Sacramento, Calif. – Undercover sting operations are the best way for CSLB to catch individuals in the act of contracting without a license. In order to continue these efforts to protect consumers and curb the underground economy, CSLB needs access to more residential and commercial properties to use as sting sites.

CSLB's Statewide Investigative Fraud Teams (SWIFT) conducts the stings with the assistance of state or local law enforcement agencies. Every year, investigators issue Notices to Appear in court to hundreds of unlicensed contractors during these undercover operations held year-round throughout California.

Licensed contractors have long been one of CSLB's main sources to identify properties - whether occupied or unoccupied - for the one- and two-day operations. It's hoped that more licensees will support CSLB's commitment to level the playing field for licensed contractors that follow the rules by helping to identify and secure sting properties.

A stipend is available to those who provide CSLB with a sting site. To learn more about these operations or to offer a property for a future sting

please contact the SWIFT office closest to you:

Northern California: (916) 255-2924, SWIFTNorth@cslb.ca.gov

Central California: (559) 490-0580, SWIFTCentral@cslb.ca.gov

Southern California: (562) 345.7600, SWIFTSouth@cslb.ca.gov

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ServiceTitan Buys Schedule Engine

Los Angeles, Calif. – ServiceTitan, a software platform built to power the trades, announced that it has entered a definitive agreement to acquire Schedule Engine, a provider of online booking for home and commercial services. The acquisition will bolster ServiceTitan's suite of technology solutions and increase investment in Schedule Engine's technology and products. Booking an appointment is one of the most important interactions a service business has with its customers, and the trades industry is already seeing a significant increase in jobs being booked online.

"Just like ServiceTitan, Schedule Engine was born out of a desire to solve the problems that hardworking tradespeople face every single day," said Ara Mahdessian, CEO and co-founder of ServiceTitan. "Online scheduling technology is a 'must-have' for any trades business looking to deliver a modern and seamless customer experience, and Schedule Engine has built by far

the most advanced and intuitive solution we've seen to date. We're thrilled to partner with Vincent and the Schedule Engine team to advance our mission of equipping contractors with the technology they deserve."

Founded in 2016 by Austin Haller as a solution for his father's contracting business, Schedule Engine provides a comprehensive customer solution for trade businesses. Schedule Engine enables service providers to deliver the seamless experience that end-consumers have come to expect, including fully integrated online booking technology, automated customer messaging, and remote technician video diagnosis.

"Schedule Engine and ServiceTitan share a mission to bring the best and most advanced technology available to the trades industry," said Vincent Payen, CEO of Schedule Engine. "Our scheduling technology gives contractors the tools they need to never miss a job and their customers the ability to easily schedule an appointment at any time through our online booking tool, live chat, or by simply picking up the phone. We're also equipping trade businesses with powerful analytics that simplify the entire booking process and optimize jobs. I can't wait to see what the Schedule Engine and ServiceTitan teams are able to accomplish together."

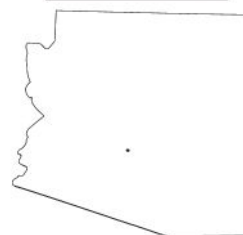
According to a recent survey conducted by ServiceTitan, a majority of home service providers believe that more than 30% of their jobs will be booked through an online scheduling tool over the next three years, and more than two-thirds of home service providers plan on investing in online booking technology within the next year. Online scheduling is a pragmatic solution that solves an issue every contractor experiences on a daily basis.

"Being both a ServiceTitan and Schedule Engine customer, I could not be more excited that two of the most innovative, customer-focused technology companies in the trades industry are joining forces," said Aaron Gaynor, CEO of The Eco Plumbers. "The benefit of having an online booking option available to our customers is abundantly clear. Since we started using Schedule Engine, the results have been dramatic, we expect online bookings to account for over 20% of all bookings by the end of this year, up from 0% three years ago. It's made a dramatic impact on our business and we expect it to be an important driver of our growth going forward."

Payen will be reporting directly to Connor Theilmann, who was recently promoted to chief business officer of ServiceTitan. Since 2021, ServiceTitan has announced the acquisitions of FieldRoutes, a cloud and mobile SaaS provider in the pest control and lawn care industries; Aspire Software, a software provider for commercial landscaping businesses; and ServicePro, a software solution for the pest, lawn, and arbor industries.

ServiceTitan's acquisition of Schedule Engine is subject to the satisfaction or waiver of certain closing conditions contained in the definitive agreement.

ARIZONA



BDR Announces SPARK 2023

Tucson, Ariz. – Business Development Resources (BDR), a training and business coaching authority for home services industry professionals, will host two jam-packed days of impactful keynote talks, breakout sessions, networking opportunities, and more for contractors in the industry at SPARK 2023 on January 11-14, 2023 in Tucson, Arizona.

"SPARK 2023 is a powerful opportunity for contractors to cultivate new ideas, learn to communicate with younger generations, and collaborate with their peers," said Bruce Wiseman, president and owner of BDR. "Based on the success of the first SPARK event in San Antonio earlier this year, we're confident that we've developed a unique program that inspires and empowers the leaders in our industry."

At SPARK, contractors will be presented with opportunities to build significant industry connections and learn key areas of focus for their business in the current economic climate.

The event is headlined by keynote sessions from experts in leadership and team member engagement. Clint Pulver, professional drummer turned employee retention expert, will kick off the event with an electrifying opening presentation. Lt. Col. Waldo "The Wingman" Waldman,

executive coach and author of the New York Times bestseller "Never Fly Solo," will deliver a powerful closing keynote.

SPARK 2023 also features time to enjoy activities in Tucson, a golf tournament, and great food and drinks – all in a Southwest setting. Held at the El Conquistador Tucson, guests will get to experience the colors, textures, and awe-inspiring views of the Sonoran Desert.

The inaugural SPARK event in San Antonio hosted representatives from 95 home service businesses with a combined annual revenue of \$500 million.

For more information, including registration options and a preliminary agenda, visit <https://www.bdrco.com/spark/>.

TEXAS



Air Pros USA Buys Dallas Plumbing

Dallas, Texas – Fort Lauderdale-based Air Pros USA announced the acquisition of Dallas Plumbing Company, a family owned and operated HVAC and plumbing business that has been serving home and business owners in the Dallas/Fort Worth area since 1903.

Led by four family generations, Dallas Plumbing Company specializes in plumbing, air conditioning, and heating solutions. Under the new partnership, the company will continue to provide its services in over 150 zip codes in the Dallas, Collin, and Tarrant County regions with 100 trucks and employees.

"It is not a small achievement to last over 100 years in the industry. Dallas Plumbing Company has kept a strong, loyal fan base in the area because they have never compromised quality for their customers and we are thrilled to make them a partner," said Anthony Perera, founder and chief growth officer of Air Pros USA. "With our philosophy to always put customers first, Air Pros USA will continue to honor the legacy and commitment to customers that the Dallas Plumbing Company has created."

Continued on Page 6

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As an Air Pros USA Company, Dallas Plumbing Company will benefit from full operational and sales integration with the Air Pros USA platform to leverage expanded resources and continue building upon the company's 120 years of dedication to service.

"Dallas Plumbing Company helped build Dallas up and never stopped growing together with the city," said John Downs, president of Dallas Plumbing Company. "Air Pros USA presents the next opportunity for our company to elevate its resources and remain the premier choice for home service needs in Texas."

This is Air Pros USA's second acquisition in Texas, previously acquiring Dallas-based Blue Star Heating and Air in 2019. Through the Dallas Plumbing Company acquisition, Air Pros USA expands

its national growth with over 550 vehicles, 600 technicians and staff, and a customer base of over half a million. Air Pros USA operates in eight states and more than a dozen metro areas including Miami, Orlando, Dallas, Atlanta, Colorado Springs, Mobile, and Spokane.

Braune Merges with Shafer Services Plus

San Antonio, Texas – Lockhart's Braune Air Conditioning & Heating has merged with Shafer Services Plus, headquartered in San Antonio. Founder David Braune, who has served Lockhart for more than 40 years, chose Shafer because of the organization's longevity and ability to expand service offerings.

"As we all know, Lockhart is growing and the community is

thriving," said David Braune. "To keep up with the growth in this area, we have made the exciting decision to partner with Shafer Services Plus. The values, customer service, and quality of work that Shafer provides aligns with how we have done business for years. Plus, Shafer also offers plumbing services which is a convenient and important addition."

This merger allows Shafer Services Plus to expand its service area along the IH35 corridor and into South Austin. David and his team will join forces with Shafer and continue to serve the region. Merging with Shafer is bringing 24/7 service, as well as plumbing, refrigeration, and indoor air quality services, to Braune customers in the expanding Lockhart area.

"For decades, Braune and Shafer have had a mutual respect for one another's history, skills, and dedication to putting custom-

ers first," said Alison Lange, president of Shafer Services Plus. "Being able to unite our teams brings opportunities that are critical as we grow to serve this region."

The Shafer family has been serving the San Antonio community for over 135 years. Today, Shafer Services Plus is growing beyond San Antonio and serves more than 8,500 residential and commercial customers.

Daikin to Build \$230M Facility in Mexico

Houston, Texas – Daikin Comfort Technologies North America Inc. will build a 761,000 square-foot manufacturing facility in Mexico that will be fully operational in 2024, the company announced today. The estimated \$230 million investment is in response to increasing demand for Daikin products in North America and Latin America, which include the Daikin, Goodman, and Amana brands.

"Daikin is intensely focused on becoming the North American HVAC industry leader in all aspects, from production and innovation to quality and customer service," said Satoru Akama, president and CEO of Daikin Comfort Technologies North America Inc. "In order to meet the increased demand for our technologies and products throughout North America and Latin America, and from a business continuity standpoint, it is absolutely necessary to expand our manufacturing presence into Mexico."

The new facility will localize production of Daikin's mini-split and Daikin FITresidential inverter products that are currently imported from manufacturing sites in Asia.

Daikin has already expanded its manufacturing presence into Mexico, migrating the production of some modular blower product lines to a 200,000-square-foot repurposed facility. That facility will supplement production at DTTP with five product lines once fully operational in 2023.

"It is vital to integrate production at a local level to efficiently maintain our high standards to deliver quality service to our customers," Akama said. "It also underscores our belief in adding manufacturing

capacity where our products are bought, sold and used."

A vast majority of manufacturing operations will remain at Daikin Texas Technology Park (DTTP) outside of Houston. The 4.3-million-square-foot campus' production volume, scale, and workforce headcount will not be impacted by the new sites. Production at that facility is on pace to eclipse manufacturing records set in 2021.

"Daikin Texas Technology Park will continue to be the center of our operations and forefront of Daikin's innovation in North America," Akama said. "Our presence in Mexico will be a wonderful complement to the tremendous achievements and continued growth in manufacturing operations at DTTP."

DTTP, which has served as the company's North American headquarters since 2017, currently employs a workforce of close to 10,000 and continues to actively recruit new team members.

Daikin has also expanded operations in the Greater Houston region in recent years. In 2020, it added 62,000 square feet of office space and common areas at DTTP. Last year, the company signed a 494,800 square-foot lease in northwest Houston to supplement distribution and logistics operations. Daikin has since built out that site, which now serves as a parts distribution center.

"We remain committed to focusing intense recruiting efforts in the Greater Houston region," said Kristi Pittman, vice president of human resources. "Our priorities continue to be enhancing our employee experience, filling open positions with talented individuals, and preparing for future growth."

For more, visit www.northamerica-daikin.com.



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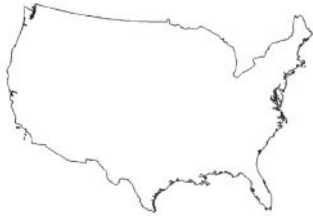
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NATIONAL



AprilAire Renovates Poynette Campus

Madison, Wisc. – AprilAire and its parent company, Research Products Corporation (RPC), have completed a major renovation and remodel in the Madison suburb of Poynette, transforming

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Continued from Page 6

the campus' initial building, which opened in 1962 and was most recently used for storage and maintenance, into state-of-the-industry offices and gathering spaces.

Located at 300 E. John Street, the 16,000-square-foot space features a new secure entrance to the campus with 16 new cubicles, 16 new individual offices, two break rooms, a fitness room, a quiet room, three team flex spaces, and four collaboration zones appropriate for spontaneous conferences, drop-in meetings, impromptu discussions, and other gatherings.

"While we are headquartered in Madison, Poynette has become critical to our expansion to meet the enormous recent uptick in national interest in healthy indoor air," said

Dale Philippi, president and CEO of Research Products Corporation. "This renovation will help us meet this new demand and we are proud that we were able to repurpose an existing space. The remodel is a one-of-a-kind, multi-functional workspace and we're thrilled to move in there."

The renovation and remodel began in August 2021 and the plant leadership team, safety, human resources, and process engineering team moved in two weeks ago. The nine-month process included stripping the building down to its original columns and roof and building back a one-of-a-kind office space for RPC and AprilAire. Masonry stone exteriors were added and the roof retrofitted.

New, large windows were installed, allowing plentiful natural light. The parking lot got a facelift with old asphalt removed and new asphalt installed, landscaping design added, and a flexible outdoor patio created.

"AprilAire's commitment to its employees and investment in the spaces where we work is evident with this large renovation," said AprilAire Talent Acquisition Manager Claudine Baccheschi. "We are creating a fresh new space to develop our current talent and expand on the opportunity to attract new personnel – this step not only supports our own business, but the Poynette community."

"First impressions are critical in today's labor market, and this is one more step to show how willing we are to invest in our employees and create a good work environment," said AprilAire Senior Human Resources Manager Elizabeth Vehige.

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Bonomi Group Triples Size of Headquarters

Charlotte, N.C. – The Bonomi Group, a manufacturer of valves and flow control products, is nearly tripling the size of its North American headquarters in Charlotte, North Carolina. Bonomi North America Inc. is moving to a newly renovated 70,000 square foot building that will allow increased warehouse capacity, expanded valve automation

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North Highlands
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Ontario
909/987-5016

Oxnard
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Palm Desert
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West Los Angeles
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or 800/727-9936
Idaho Falls
208/542-5270

NEVADA
Sparks
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UTAH
Salt Lake City
801/485-8071
or 800/333-8436

Industry News

Continued from Page 8

capabilities, and more office space, along with improved presentation facilities for product training.

Bonomi North America has been a valve supplier in North America for the past 19 years. The company was established in 2003 in a 3,500 square foot space in Rock Hill, South Carolina. About 4,000 square feet of warehouse was added in 2004. Bonomi purchased its current 25,000 square foot headquarters in Charlotte in 2014.

The need for an even larger home in just eight years has been driven by demand for valves, actuators, and automated valve packages. Sophisticated valve and actuator testing capabilities are planned for the new headquarters

to support the growing North American market.

The Bonomi Group has also been acquiring additional companies to complement and expand its product offering, adding to the need for more U.S. warehouse space:

- Ghibson Italia s.r.l., based in Zola Predosa (Bologna, Italy), is a company specialized in the production of butterfly and check valves, for various industrial applications.

- Ghibson & Co., based in Nova Milanese (Milan, Italy), is a company supporting Ghibson Italia's range with the following products for a wide range of applications: damper valves, knife gate valves, ball valves, customized valves, and actuators.

- Penta s.r.l., based in Maz-

zano (Brescia, Italy), is specialized in the production of metal seated ball valves for critical operating conditions, such as temperatures (up to +1,292° F), cryogenic services (down to -328° F), abrasive services, hazardous services, and engineering for special services.

- AVS AB – Automatik Ventiler System, based in Malmö (Svezia, Sweden), is a supplier to industrial plants.

The decision to stay in Charlotte was an easy one, according to Alberto Malaguti, general manager of Bonomi North America.

“Charlotte is the ideal location for us. It offers easy national and international transportation and the world-class setting a leader like Bonomi needs for continued growth. We build long-term relationships with our customers. Our

new, larger headquarters here will enable us to meet our current and new customers' needs, now and into the future,” Malaguti said.

• • • • •

Bryant Names Dealer of the Year

Indianapolis, Ind. – Rose Heating & Air Conditioning of Urbana, Illinois has been named the 2022 Bryant Dealer of the Year, the highest honor a Bryant dealer can receive. Each year, this award recognizes a Bryant Factory Authorized Dealer (BFAD) whose hard work, expertise and business acumen sets them apart as an industry leader. 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, sustainable and intelligent building and cold chain solutions.

Rose Heating & Air Conditioning is a third-generation business with over 60 years of service in the HVAC industry. Founded in 1962, this is a proud family-owned and-operated business with the sole aim of providing exceptional customer service at an affordable price. Rose Heating & Air Conditioning was awarded Bryant's prestigious “Circle of Champions” award in 2018, 2019 and 2020, and Bryant's “Medal of Excellence” award in 1992, 2021 and 2022, ranking them among the top 22 dealers in North America.

“Bryant dealers continue to raise the bar in our industry and are among the best in the business,” said Justin Keppy, President, NA Residential & Light Commercial HVAC, Carrier. “Our 2022 Dealer of the Year, Rose Heating & Air Conditioning, truly represents the commitment to service and customer satisfaction that we expect from our dealers. We are proud to have them as a Bryant brand advocate.”

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

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DiversiTech Buys Big Goose

Duluth, Ga. – DiversiTech Corp., an aftermarket manufacturer and supplier of components for residential and light commercial heating, ventilating, air conditioning, and refrigeration (HVACR), announced that it acquired the Big Goose line of innovative latching condensate float switches. The switches will become part of DiversiTech's Asurity Condensate Management system, which offers contractors a full system solution to managing condensate.

The patented and patent-pending condensate float switches feature a latching mechanism that prevents the unit from turning on after tripping until a technician addresses the reason for the condensate blockage. This eliminates the electrical chatter, which may cause damage to HVAC equipment. Simply reset the switch with a push of a button. The switches also incorporate a float design which is not prone to sticking.

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Industry News

“These innovative float switches from Big Goose are a natural addition to our Asurity line and will provide technicians another great option in achieving a robust condensate system implementation, eliminating a top reason for callbacks,” said Franco Daino, VP of product line management and marketing. “Contractors who follow our installation guidelines qualify for the Asurity Promise, which provides contractors an extra level of assurance.”

Fujitsu General Announces Premier Program

Pine Brook, N.J. – Fujitsu General America, Inc. has partnered with Service 1st Financial, LLC to offer the Premier Program® to its contractor partners. This partnership allows Fujitsu contractors to provide homeowners with a Home Comfort-as-a-Service leasing option for their residential heating and cooling needs.

The Premier Program is a worry-free service for homeowners to replace and upgrade their heating and cooling equipment for a low monthly payment, while eliminating the common pain points associated with owning, maintaining, and repairing such systems.

Delivered through a comprehensive, easy-to-use platform, the Premier Program is supported by industry-leading, on-site sales training. Contractors that utilize the Premier Program experience improved financial performance from higher close rates, increased average tickets, and profitable recurring revenue. Each Premier Program installation also features a long-term maintenance agreement that improves customer retention, secures annual cross-sell opportunities, and places the installing contractor first-in-line for the next replacement sale.

Homeowners will enjoy the most advanced home comfort systems and complete peace-of-mind knowing the installation was completed by a highly qualified and approved Premier Program contractor. Each Premier Program installation includes 24/7 priority scheduling, annual preventative maintenance, air filter replacements and covered emergency repairs while eliminating trip, diagnostic, and overtime fees.

This partnership promotes the shared sustainability goals of Fujitsu and Service 1st. “The home comfort industry is a significant contributor to carbon emissions worldwide. It’s our responsibility to encourage consumers to make planet-friendly purchasing decisions,” said Anuj Khanna, Founder & CEO of Service 1st. “Replacing old home comfort systems earlier, making high efficiency products more financially accessible, and ensuring annual maintenance is performed are key contributors to reducing the industry’s carbon footprint. Together, Fujitsu contractors and the Premier Program can deliver on these critically important goals.”

Adding the Premier Program to your offering is fast and simple. For more, please visit www.worryfree-homecomfort.com/fujitsu.

Emerson Marks 200 Million Copeland Scroll Compressor Installations

Sidney, Ohio – Emerson announced it has achieved 200 million Copeland compressor installations worldwide, a milestone that comes as the company concludes its 100th-anniversary celebration of the Copeland brand and as more industry regulatory deadlines continue to drive new product innovations.

Recent additions to Emerson’s compressor portfolio to help meet efficiency and lower GWP refrigerant requirements include the Copeland ZPK7 and Copeland ZPKZ scroll compressors for residential and commercial air conditioning



A COPELAND SCROLL COMPRESSOR.

applications. The ZPK7 and ZPKZ are the latest next-generation scroll compressors in the brand’s 100-year history. Other recent additions include the Copeland ZPSK7 two-stage scroll compressor for residential and light commercial air conditioning applications; an expanding CO2 compressor product line for commercial refrigeration applications; advancements in R-290 compressor technology; and

A2L-qualified compressors, condensing units, and components.

“Lower GWP options, a heightened focus on sustainable solutions and higher efficiency requirements continue to drive product development,” said John Schneider, president, HVACR Technologies Americas, Emerson. “Having 200 million Copeland compressors installed worldwide signifies an important achievement for the Copeland brand and reinforces the roles of reliability and efficiency in compressor preference for OEMs, contractors, technicians, and end-users as they work to achieve regulatory compliance and sustainability goals.”

The Copeland brand’s legacy of reliability and inventiveness con-

Continued on Page 12



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**IHACI Webinar
System Diagnostics Module
(Four-Night Class)**
Instructor: Mitch Bailey
Wed., August 31 – Part 1

SEPTEMBER 2022

**IHACI Webinar
System Diagnostics Module
(Four-Night Class, continued from Aug)**
Instructor: Mitch Bailey
Thurs., Sept. 1 – Part 2
Wed., Sept. 7 – Part 3
Thurs., Sept. 8 – Part 4

OCTOBER 2022

**NATE Core and Gas Heating Training
(Four-Night Class)**
Instructor: Mitch Bailey
Mon., Oct. 10 – Part 1
Tues., Oct. 11 – Part 2
Mon., Oct. 17 – Part 3
Tues., Oct. 18 – Part 4



All classes are currently scheduled as Webinars held 6:00 pm to 8:00 pm. Webinars are **FREE** of charge and online registration is required.

You can register online by visiting: pge.com/hvactraining. Attendees must register for each night separately and registration is on a first-come, first-served basis. “PG&E” refers to Pacific Gas and Electric Company, a subsidiary of PG&E Corporation. ©2022 Pacific Gas and Electric Company. All rights reserved. These offerings are funded by California utility customers and administered by PG&E under the auspices of the California Public Utilities Commission.



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tinues to serve as the foundation for regulation-ready, next-generation compression technology. The new ZPKZ, ZPK7, and ZPSK7 scroll compressor platforms are Emerson’s most efficient fixed-speed and two-stage compressors to date, developed to help meet the upcoming 2023 Department of Energy (DOE) higher-efficiency minimums. They are currently available with R-410A refrigerant compat-

ibility and will have versions optimized for the next generation of lower GWP A2L refrigerants. Copeland CO2 compressors transfer the high efficiency inherent in the Copeland scroll design to transcritical and subcritical CO2 refrigeration system designs. As regulations and sustainability goals drive broader adoption of the environmentally friendly CO2 refrigerant, Emerson continues to broaden its compressor portfolio and develop Copeland commercial

refrigeration offerings that simplify the application of CO2 systems. Nearing the end of its 100th-anniversary celebration of the Copeland brand, Emerson extends its focus on rigorous product testing and extensive research. The company continues to offer high-efficiency and lower-GWP refrigerant solutions to support manufacturers’ needs to redesign their systems to meet efficiency and refrigerant regulations.

• • • • •

Withlacoochee Technical College Granted HVAC Accreditation

Mount Prospect, Ill. – HVAC Excellence announced that the HVACR training program at Withlacoochee Technical College in Inverness, Florida has been granted accreditation.

The college has been named one

of the top five community colleges and was recognized by the White House as a Champion of Change. They wanted to make certain their air conditioning and refrigeration program met high standards, so to accomplish this, they voluntarily chose to undergo accreditation of their program. Programmatic accreditation is an independent, third-party review of an educational program, comparing it to established, industry-accepted standards. These standards are designed to ensure that the future workforce receives the quality training required for success in the HVACR industry. Upon a thorough review of all the documentation presented by the administration, faculty, and the onsite accreditation team, the HVAC Excellence accreditation review board unanimously decided to grant accreditation of the program.

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SPX Cooling Marley Brand Marks 100 Years

Overland Park, Kan. – SPX Cooling Technologies Inc., a full-line, full-service designer and manufacturer of evaporative cooling systems and air-cooled heat exchangers, is commemorating the 100-year anniversary of its Marley brand, which develops energy-efficient and sustainable evaporative cooling towers and components. SPX Cooling will celebrate this milestone throughout 2022 with a company timeline, video history, and events for employees, alumni, representatives, and customers. “We are excited to honor the Marley Company founders who have fostered a long-standing culture of curiosity, drive and inventiveness throughout our company,” said Ankush Kumar, president, SPX Global Cooling. “We’re also happy to celebrate the next century of Marley, where we continue to be built for quality, powered by innovation, and committed to sustainability.” Today, SPX Cooling Technologies holds over 200 U.S. patents for evaporative cooling systems and components. “Our founders were young engineers and manufacturer’s representatives who listened intently to their customers

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- Part 6, 2022 California Energy Code
- Part 9, 2022 California Fire Code
- Part 10, 2022 California Existing Building Code (includes Part 8 Historical Building Code and Part 12 Referenced Standards Code)
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Bills Affecting HVAC Contractors Continue to Move through Legislature

Continued from Page 1

this bill now requires the CEC, by January 1, 2026 to adopt rules to develop and implement an electronic statewide HVAC equipment sales registry and compliance tracking system that is designed to identify HVAC equipment that is installed without permits and without completion of required documentation. The bill now also requires the CEC by January 1, 2025 to adopt rules to develop and implement an electronic statewide compliance document and data registry to register and store compliance, installation and acceptance test documentation required by regulations under the Title 24 California Energy Code. Under the proposed sales registry and tracking system, stores and dealers that sell HVAC equipment would be required to register the sale of HVAC equipment, the contractor license number of the purchaser and other information including equipment serial numbers. Data from the sales registry and tracking system would be made available to local building departments and the CSLB for enforcement of permit and compliance violations. The CSLB voted to support this bill at its June 16 meeting. The bill is supported

by the Western States Council of Sheet Metal Workers and the California State Pipe Trades Council. This bill passed through the Senate and was progressing through Assembly committees as of late June.

Building Permit Violation Fine Increase

AB 1747 Quirk (D-Hayward) – Contractor Disciplinary Action and Fines. This bill would add the violation of willful or deliberate disregard of any state or local law relating to the issuance of building permits to the list of violations for which the CSLB is authorized to assess a civil penalty up to \$30,000.

The CSLB is a sponsor and supporter of this bill that arose out of CSLB consultation with the CEC on ways to increase compliance with Title 24 energy and quality installation standards for HVAC equipment. Construction projects not installed to code place owners at risk, and in the case of HVAC systems, prevent consumers from achieving energy savings and compromise California’s building decarbonization efforts. The CSLB already has authority to discipline contractors for failure to comply with permit requirements. To clarify and address the seriousness

of this issue in the law, this bill creates a generalized subdivision for permit violations, along with other serious health and safety violations, that increases fines for such violations from a maximum of \$5,000 to \$30,000.

This bill is supported by the California Building Officials (CALBO), the American Subcontractors Association of California, the Western Electrical Contractors, and sheet metal workers associations and local unions. This bill passed through the Assembly and was progressing through Senate committees in June.

Mandatory Workers’ Compensation Insurance

SB 216 Dodd (D-Napa) – Worker’s Compensation Insurance, Mandatory Coverage. This bill would preclude the CSLB from accepting certificates of exemption from workers’ compensation (WC) insurance from active license classifications: C-20 HVAC, C-8 Concrete, D-49 Tree Service and C-22 Asbestos Abatement beginning July 1, 2023, and from all licensed contractor classifications beginning in 2026, thus requiring all contractors (including licensees without employees) to have WC coverage and a certificate of WC insurance on file with the

CSLB by January 1, 2026.

As justification, according to the CSLB, despite years of enforcement efforts, the number of WC exemptions on file with CSLB, and the number of contractors in violation of WC laws remains constant. CSLB confirms that many of the 50 to 60 percent of licensed contractors who currently claim a WC exemption (stating that they have no employees), do in fact have employees.

This bill passed from the Senate Floor in January 2022 and was moving through Assembly committees as of late June. Since last reported in *ICN*, the bill was amended June 1, 2022 to add the C-22 Asbestos Abatement contractor license to the licenses that would be required to have WC in the first year (2023), and the effective dates were delayed. The bill was also amended to exempt a joint venture license from the WC requirement when one or more of the licensees forming the joint venture have a WC policy. This bill is supported by contractor and labor organizations including the American Subcontractors Association, Cal-SMACNA, and the Plumbing-Heating-Cooling Contractors of California.

AB 2894 Cooper (D-Elk Grove) – Workers Compensation

Insurance, Reporting of Classification Codes. Another WC bill of interest, AB 2894 would require licensed contractors who have WC insurance to inform the CSLB of their WC classification code (WCC) as developed by the Workers’ Compensation Rating Bureau or approved by the Insurance Commissioner. Since rates for WC insurance are based on the four-digit WCC code used, some contractors could intentionally misclassify their employees to receive lower rates. The bill’s intent is to protect workers by requiring contractors to provide information to the CSLB to ensure employees are properly insured and prevent unscrupulous contractors from purchasing less expensive coverage. It is anticipated that the CSLB would update license renewal forms to collect this information from contractors at the time of license renewal and would prohibit renewal without certification of the WCC code. The CSLB would also be required to post this information on its website. AB 2894 is sponsored and supported by the District Council of Iron Workers of California. This bill passed from the Assembly and was moving through the Senate as of late June. The CSLB has taken a “watch” position on the bill.

Daikin CEO Retires

Continued from Page 1

3. DAA transformed the company from an equipment manufacturer to a solutions provider by developing a connected solutions business, acquiring interest in software and systems integration companies, and strengthening the sales and service channels. Financially, DAA achieved record bookings, backlog, and revenue, year after year. Schwartz’s success was recognized with a

position on the board of parent company, Daikin Industries Ltd., in 2019.

Among his many accomplishments, Schwartz is widely recognized among employees for his commitment to people centered management. Under his leadership, DAA has increased vacation time and paid parental leave; prioritized giving back to communities with a volunteerism policy; and launched a company wide diversity and inclusion team to foster a sense of belonging and embrace differences as the fuel for

competitive advantage.

“The heart of Daikin’s philosophy on people centered management is that the company only grows when our people grow. It’s been my ambition to make Daikin Applied a great place to work,” said Schwartz. “We’ve broken down siloes, enhanced communication, and streamlined processes. We’re creating a culture where all team members can feel engaged in our mission. That commitment is evident in our results.”

Schwartz’s recent achievement in developing and launching a new

strategic framework and operating system positions DAA to triple revenue from 2011 to 2022 and reach the next level of exponential growth in 2025.

Prior to joining Daikin, Schwartz led the financial turnaround of RathGibson LLC, a privately held manufacturer of precision engineered industrial tubing. He also held key leadership roles at Lennox International from 1997-2005, including president and COO of its Armstrong Air Conditioning business, as well as president and COO of its

residential and light commercial business, and Lennox’s Heatcraft refrigeration business. Schwartz started his career in 1981 at Bohn Heat Transfer, which was acquired by Lennox in 1989. He is a 1981 graduate of Iowa State University, where he was nominated by his teammates as captain of the football team and earned his Bachelor of Science in Mechanical Engineering.

Schwartz is working with Daikin Industries’ leadership on his succession plan to ensure a smooth transition.

Innovation Awards

Continued from Page 1

The Innovation Awards aim to honor the most inventive, useful, and original products, systems, and technologies in the marketplace. Exhibitors are encouraged to submit products and technologies to showcase solutions for new and existing challenges and new avenues for industry growth. Once submitted, all entries are evaluated by a panel of third-party ASHRAE members with over 20 years of professional engineering

experience. The panel uses a review process to tally points based on application, innovation, value, and market impact. Winners are then selected in 10 industry categories, including: building automation, cooling, heating, indoor air quality, plumbing, refrigeration, software, sustainable solutions, tools and instruments, and ventilation. An overall Product of the Year will be selected from the pool of category winners and will be announced at the show in Atlanta.

The Innovation Awards as an Investment in Our Workforce

In 2022 AHR Expo introduced a workforce development program in which entry fees from the Innovation Awards program were used to support a local dual-HVAC high school. With the success of the awards in Vegas, AHR Expo was able to donate \$25,000 directly to the program as well as host 25 students for a field trip on the show floor. In 2023, AHR Expo aims to work with the Atlanta Public School district to award donation funds to a similar program, with the hopes of growing into other areas of service within HVAC, including comput-

er programming and engineering.

“This industry is special. If you’ve been to the AHR Expo you understand the feeling of community and connectedness – even more now than ever coming out of the challenging years behind us,” said Stevens. “We are poised to build a fantastic future with HVACR leading the transformation of our built environment. The Innovation Awards lend a preview of this and it is encouraging to see how we are moving forward as an industry. Manufacturers continue to exceed expectations by showing up, making improvements and

pushing forward; and while we award only ten companies, we see hundreds in our submissions. We can’t wait to see what’s to come in Atlanta.”

How to Enter the 2023 Innovation Awards

The awards extend an opportunity for manufacturers to validate their dedication and hard work with strategy, planning, execution, and market realization through the recognition of the industry’s most prestigious award. Winners are

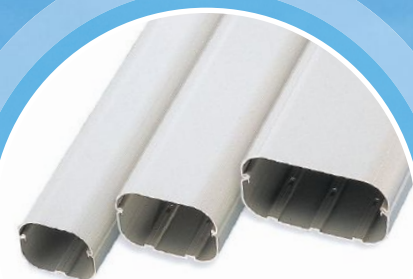
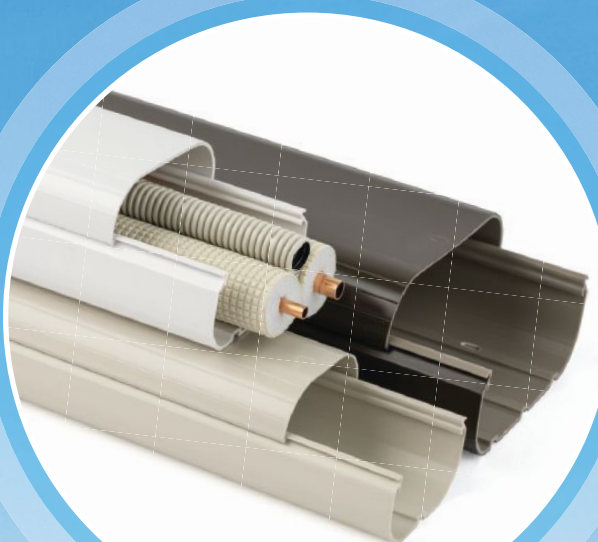
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Mitsubishi Electric has launched a new product series - SMART MULTI. This line-up consolidates the quality of the PUMY line and the MXZ line into one outdoor unit. You will get the same functionality and compatibility in both standard and Hyper-Heat® models. SMART MULTI adds improved performance with higher SEER and HSPF ratings and comes with seacoast protection.



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Efficiency improvements:

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- HSPF up to 12.5
- IEER up to 24
- COP:
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 - at 17F: up to 2.64
- SHF: <0.79

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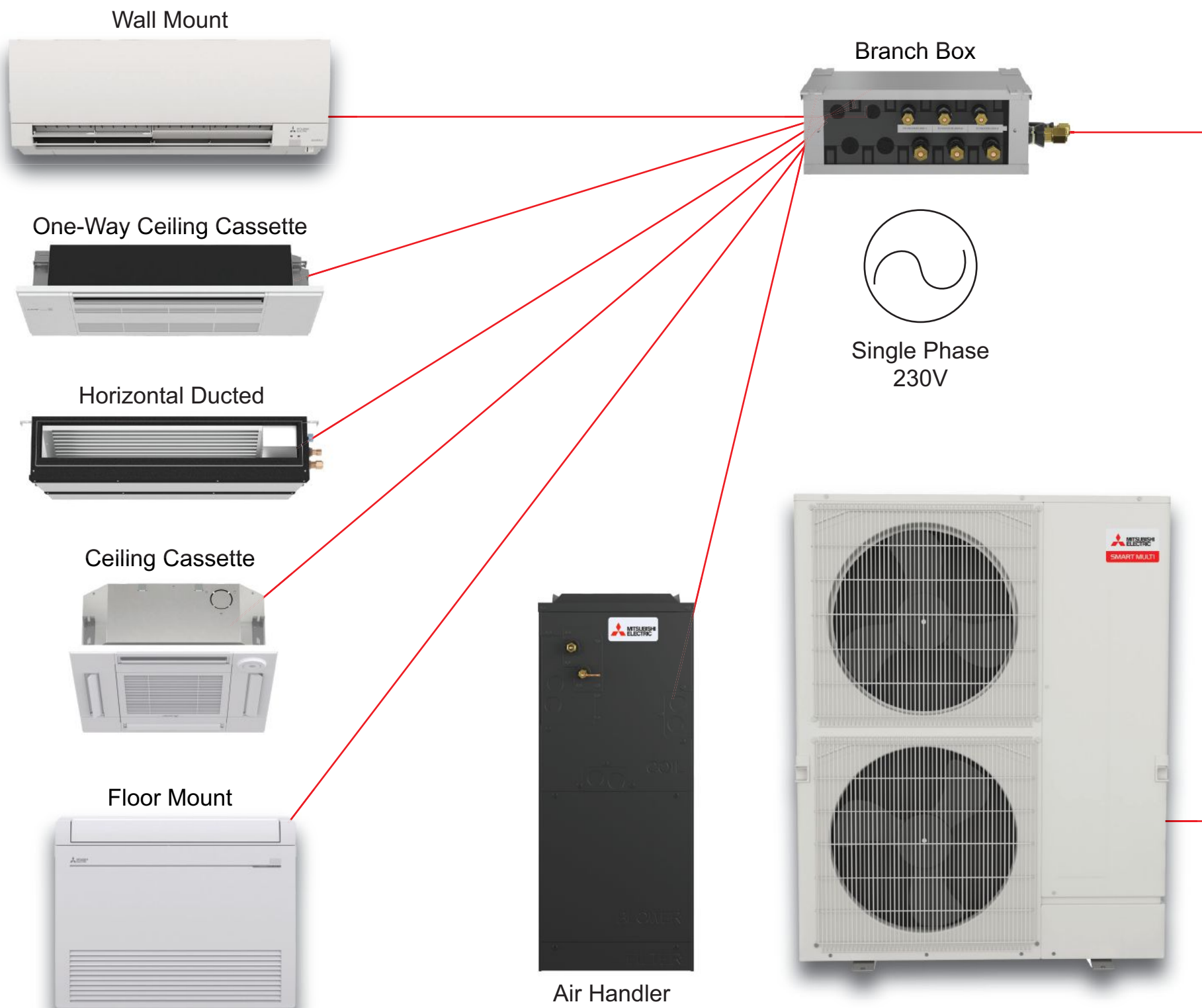
Outdoor unit enhancements:

- Seacoast protection standard on heat exchanger (Blue Fin) and base panel
- Rated for 2,000 hours in accordance with ASTM B117

Current PUMY (-BS) Models	NEW MXZ-SM Models	Current MXZ Branch Box Models
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PUMY-HP36NKMU1	MXZ-SM36NAMHZ	MXZ-4C36NAHZ2
N/A	MXZ-SM42NAMHZ	MXZ-5C42NAHZ2
PUMY-P48NKMU3(-BS)	MXZ-SM48NAM	MXZ-8C48NA2
PUMY-HP48NKMU1	MXZ-SM48NAMHZ	MXZ-8C48NAHZ2
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MXZ Ported-type	✓	✓	✓	✓	✓	-	-
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Berner International Architectural Contour



Berner International, New Castle, Pa., North America’s leading air curtain manufacturer and innovator, added the Architectural Contour Air Curtain Series to its Architectural Collection, giving specifiers another beautiful, technologically advanced design for protecting commercial building main entrances when the door is open.

The Architectural Contour 8 and 10 models feature the HVAC industry’s quietest operation from a high-performance air curtain. The design targets healthcare, hotels, retail, restaurants, and other applications where thermal comfort, front entrance doorway aesthetics, and energy savings are critical.

Its patented, unprecedented aesthetic is Berner’s second departure from the industry’s decades-old rectangular box shapes after recently introducing the Architectural Elite. Featuring a sleek, discreetly contoured cabinet constructed of anodized aluminum, the Architectural Contour complements 21st Century anodized aluminum doorways and metal architecture.

The Architectural Contour 8 and 10 feature low profiles of 8-1/4 H x 20-inch D (20.9 x 50.8-cm) and 12-3/4 H x 25-3/4 D (30.3 x 60.4-cm) without sacrificing performance for protecting up to 8 and 10-foot-high (2.4 and 3.0-meter) doorway heights, respectively. Both models (including heating options) are certified under AMCA-220, which qualifies them for the new construction cost-saving vestibule exception now included in building and energy codes, ASHRAE 90.1-2019; the IECC -2015; and the IgCC.

The Architectural Contour equals the aesthetics of the Architectural Collection’s full-featured, Golden Ratio-inspired Architectural Elite air curtain, but offers an economical alternative. Specifiers can add the Elite’s standard features as à la carte options to the Contour, such as electronically commutated (EC) motors or the Berner AIR™ smart controller and app. When combined with the Collection’s entry level Architectural Low Profile 8 and High Performance

10 models, the Contour and Elite offer building owners a diverse “good, better, best” selection, respectively.

All air curtains in the Architectural Collection use Berner’s industry-leading, factory-installed Intelliswitch™ digital controller platform. The Intelliswitch features pre-set programs, a time clock, time delay, built-in thermostat, 10-speed fan control, and other integrated, end-user customizable features. The optional Berner AIR™ smart controller and app can be added to the platform, allowing operation and monitoring from a smartphone. The Berner AIR includes true BACnet integration and a proactive adaptive setting based on the weather. The optional Berner AIR must be ordered with the air curtain.

Heating options include hot water or electric coils. A thermostat probe monitors the coils and reports the temperature to the Intelliswitch. Also available is Berner’s proprietary Venturi electric heater option that heats supply air from a unique blower intake setup versus the industry standard of positioning electric coils in the airstream, making the air flow less efficient.

More information: www.berner.com.

Carrier Ductless Air Handlers



Carrier announces the next generation of #2023Ready 40MBAB heat pump air handler. Available in sizes 18K through 60K, these new systems feature improved performance and serviceability enhancements. As part of this launch, Carrier is also pleased to introduce a new 38MARBQ outdoor unit, and a new 38MBRCQ light commercial outdoor lineup with three units.

“We’re pleased to introduce the next generation ductless air handler system to meet the growing need for high efficiency heat pumps in North America,” said Paul Rebelo, Managing Director, NA Ductless & VRF, Carrier. “Carrier is committed to

developing new product lines with innovative features and improved installation and serviceability for our technicians.”

The new 40MBAB heat pump air handler’s unique features include Carrier’s patented welded-aluminum coils, wired and wireless remote-control capability, third-party thermostat compatibility, five-operating modes and quiet indoor operation. The 40MBAB has better serviceability including four-way installation, easy maintenance and new, easier to install electric heater options. Additionally, the 40MBAB has expanded multizone compatibility, with sizes 18K through 36K now being multizone compatible.

More information: <https://www.carrier.com/residential/en/us/products/ductless-mini-splits/>.

Fujitsu General America Airzone



Fujitsu General America, Inc., has released Airzone system, an intelligent, communicating zoning system for ducted mini-split and VRF heat hump and heat recovery systems.

With modulating dampers and smart controllers, the Airzone system is available with wireless or wired communication. Engineers and installers can integrate additional ductless or ducted systems for full system control.

All Airzone dampers and optional zone modules are connected by a 4-wire cable which provides power and communication. Dampers are positioned to provide optimum airflow into a zone based upon demand monitored through zone controllers. The indoor unit fan is adjusted to instantaneously meet the demand of all calling zones.

A Fujitsu system equipped with Airzone supplies optimal airflow and ideal temperature for each zone, reducing excess equipment capacity and maximizes efficiency. The modulating damper system allows single zone heat pumps to provide heating and cooling to more than one ducted zone. The modulating Airzone dampers and proportional fan control eliminate the need for a bypass duct.

A variety of damper sizes (six to

14 inches) and controllers allow for a wide range of applications. The Airzone system control can monitor up to 10 individual zones, each with adjustable minimum and maximum damper positions.

More information: www.fujitsu-general.com.

Greenheck MultiSPEC SP-LP



Greenheck’s new MultiSPEC™ SP-LP ceiling exhaust fans provide high efficiency, powerful performance, and quiet operation in a low profile design. Powered by an electronically commutated motor (ECM) with constant CFM adaptive, variable speed technology, the MultiSPEC SP-LP is programmed to overcome static pressures of 0.4 in. wg and above associated with common multifamily installations. Greenheck’s specification-grade ventilation fans are the only fans designed, tested and certified (air and sound) for 0.4 in. wg and above ensuring air movement as stated so projects meet code requirements and callbacks are eliminated.

Featuring three built-in high-speed airflow settings of 50, 80 and 110 cfm, the virtually silent EC motor reacts to increased static pressure by increasing its speed to ensure the required airflow to remove unhealthy air and moisture. With airflow up to 110 cfm, the MultiSPEC SP-LP series is the most powerful low-profile exhaust fan on the market.

The SP-LP’s low profile 3 1/2-inch housing depth allows for wall or ceiling installations and easily fits in a 2x4 stud bay. Ideal for multifamily applications such as apartments, condominiums, hotels and dormitories, the MultiSPEC SP-LP is certified for Air and Sound through the Home Ventilating Institute, ENERGY STAR® Certified, and ETL Listed for tub/shower enclosures when GFCI protected.

More information: <https://www.greenheck.com/products/air-movement/fans/ceiling-exhaust-fans>.

Panasonic Intelli-Balance 200

Panasonic, a leading provider of ventilation and healthy indoor living solutions to the building industry, announced the new Intelli-Balance™ 200 Energy Recovery Ventilator (ERV). The Intelli-Balance 200 is an ERV designed to increase airflow in tightly built homes with both exhaust and supply air. The Intelli-Balance 200 allows builders and homeowners alike to better design and meet ASHRAE 62.2 requirements, improving indoor air quality and reducing ventilation costs.

Designed for single family dwellings and new construction built to meet energy efficiency standards, the Intelli-Balance 200 provides healthy air quality within the home. With its two electronically commutated brushless motors with built-in SmartFlow™ technology, the ERV offers precision ventilation with low power consumption. The device’s multi-speed selector (60 to 200 Cubic Feet per Minute) provides customizable airflow to create balanced, positive or negative air pressure within the home.

With the optional, all-new LCD Wall Control Panel, homeowners have instant access to custom ventilation control settings and real-time air flow and temperature monitoring. The occupant-controlled Boost function, with an adjustable timer from 10 to 60 minutes, provides increased ventilation on demand with the tap of a button ensuring balanced airflow.

The Intelli-Balance 200 also facilitates simplicity from the builder’s perspective with a mounting bracket that supports three installation options. The ERV can be floor, wall or ceiling mounted and does not require connection to the Central HVAC or the addition of a condensation line. This allows it to be installed in many places throughout the home to meet space and design requirements. For additional installation flexibility, the device also has adjustable supply and return air adaptors.

“Homeowners and builders are



IAQ, Zoning & Air Distribution Products

putting indoor air quality at the forefront of home design right now,” said Don West, Product Manager for Panasonic Life Solutions Company of America, a division of Panasonic Corporation of North America. “Our new Intelli-Balance 200 ERV, complete with its MERV 13 filter and optional MERV 8 and HEPA filters, keeps homes and new structures balanced with fresh, filtered air keeping healthy living at the top of the occupant’s mind. With its easy to use features, we’re excited to bring healthy indoor air quality to homeowners and builders alike.”

More information:
www.Intellibalance200.com.

Current RectorSeal customers can place orders directly with Dust Free or bundle orders of Dust Free products with RectorSeal products for added flexibility with order quantities and expedited product delivery.

“I could not be more excited to work with Gregg and the Dust Free team – he is a man of his word, a great inventor and a true friend. We are committed to bringing our full array of chemical expertise, sales support and in-market distribution centers to accelerate the rollout of indoor air quality products to better serve distributors and contractors,” said Jeff Underwood, Senior Vice President, Sales and Marketing at RectorSeal. “Over the past several years, there has been a growing in-

terest in indoor air quality products. The addition of this product line supports our leadership position in the HVAC marketplace.”

Gregg Burnett, President of Dust Free, stated, “We recognize RectorSeal as a leading supplier to the HVAC/R marketplace that also has an excellent distribution footprint. They share our passion for helping homeowners and building owners to minimize the impact of indoor air particulates and containments. I look forward to working with the RectorSeal staff as we further develop enhanced and new indoor air quality products in the future.”

More information: www.rectorseal.com.

• • • • •

Siemens Sinamics G120X

Siemens is introducing the new Sinamics G120X drive, a simple, seamless and easy-to-use drive, designed for use in pump, fan and compressor applications in industries such as water/wastewater, HVAC/R, irrigation/agriculture and in industrial environments. Sinamics G120X has a power range of 1–700 hp (0.75–630 kW) and can operate in a temperature range from –4 to +140° F (–20 to +60° C) with any standard motor, including synchronous reluctance motors (SRM). It has an integral DC choke which improves harmonics and EMC performance. Sinamics G120X meets all the latest



and upcoming UL, NEMA and EN/IEC standards for 2019 and beyond and offers up to 100 kA short-circuit current rating (SCCR) ensuring enhanced product safety and energy efficiency.

Sinamics G120X easily integrates into existing applications and is configured for cost-optimization and resource-saving operation, which ultimately helps reduce total

Continued on Page 20

RectorSeal Dust Free



RectorSeal, Houston, a leading manufacturer of quality HVAC/R and plumbing tools and accessories, and a wholly-owned subsidiary of CSW Industrials, Inc. [NASDAQ: CSWI], announced that the company is now a master distributor of Dust Free® indoor air quality products. Dust Free of Royse City, Texas, is one of the leading indoor air quality manufacturers serving the HVAC marketplace.

RectorSeal customers will have access to a full line of indoor air quality products, including air filters, UV purification systems, whole-home purification systems, and media air cleaners. In addition, RectorSeal will be the exclusive master distributor for a select group of commercial and ductless/VRF indoor air quality products. All Dust Free products comply with the appropriate ASHRAE, EPA, and other industry standards. RectorSeal will stock Dust Free products across its full range of distribution centers, with stocking taking place late last year. Stocking distribution centers include Santa Fe Springs, Calif.; Houston, Texas; Jacksonville, Fla.; and Fall River, Mass., allowing for shorter lead times.

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Growing Green Technicians Part 154: Sensible and Latent Heat Gain

By Jim Johnson
Contributing Editor

In previous segments in this series our focus has been on the importance of proper supply air flow in an air conditioning system. And, of course, the reason that air flow has to be proper, is that the equipment needs to operate as efficiently as possible in order to accomplish heat transfer. And the two types of heat that need to be dealt with are sensible and latent heat. From a green technician's perspective assessing the conditions in a building, sensible heat is considered as dry heat, while latent heat is related to moisture. **Figure One**, for example, shows some of the factors that need to be considered in regard to these two types of heat.

Beyond the fundamental idea of solar heat gain through a structure and its various materials, we also need to consider that the comfort level in a building is affected by the sensible and latent heat infiltration gain that occurs around doors and windows, or through any cracks in the structure. And, on the inside, there are the occupants and laundry room appliances that contribute both sensible and latent heat to the cooling load. And, of course when we consider traffic in and out of the building, an opened door causes the cool air to 'fall' out of the building while the incoming warmer air 'floats' upward. It's also true that this 'fall'

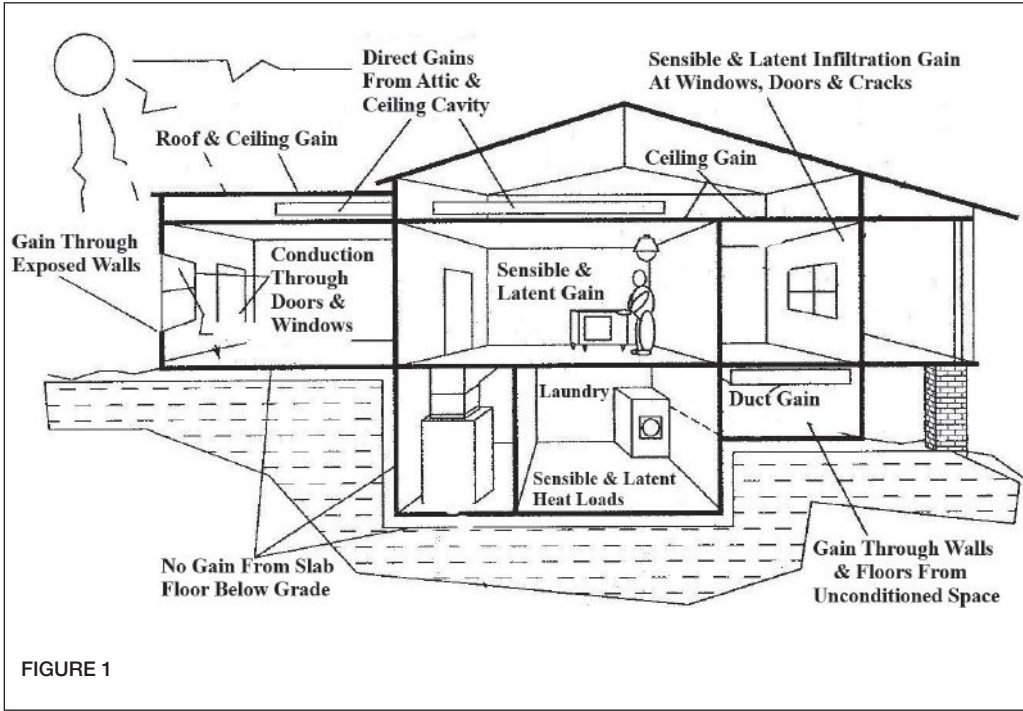


FIGURE 1

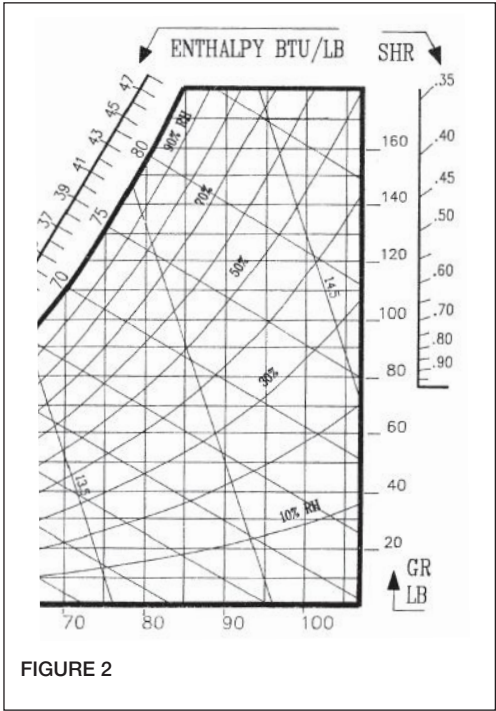


FIGURE 2

and 'float' occurs to some degree in the attic and the basement, and even inside insulated walls. It's simply the fundamentals of convection in those situations. All of these things contribute to the two kinds of heat that will cause an unconditioned space to be uncomfortable, and from a psychrometric perspective, a system that is operating efficiently and achieving the desired comfort level, the important factor is SHR, Sensible Heat Ratio (also sometimes referred to as sensible heat factor). **Figure Two** shows you a partial illustration of a psychrometric chart, and the sensible heat factor scale is shown at the far

right, listed in percentages. It is common to find the SHR scale on a chart ranging from .35 to .90, which translates to a range of 35% to 90%. What this comes down to is that these numbers explain that sensible heat load is only one element of the total load handled by a comfort cooling system. One way to understand this is to consider what the difference would be when two systems of the same capacity were operating with different SHR ratios. Here's what this would look like from a mathematical perspective when we consider a 5-ton comfort cooling system with an SHR of 0.80.

$5 \times 12,000 \text{ BTU} = 60,000 \text{ BTU}$
 $60,000 \times 0.80 = 48,000 \text{ BTU}$
 $60,000 - 48,000 = 12,000 \text{ BTU}$
What this shows for this system is that the sensible (dry air) cooling load for this equipment is 48,000 BTU's (80% of the total load) and the latent (moisture) is 12,000 BTU's. And here's how the same capacity system would be represented mathematically when the SHR is determined to be 0.75.
 $5 \times 12,000 \text{ BTU} = 60,000 \text{ BTU}$
 $60,000 \times 0.75 = 45,000 \text{ BTU}$
 $60,000 - 45,000 = 15,000 \text{ BTU}$
What we've determined here is that the latent heat load is 15,000 BTU's, which means that this

equipment will have more work to do in regard to removing moisture in the conditioned space in order to achieve the same comfort level. From a psychrometric standpoint, a technician can evaluate the operation of a comfort cooling system and determine SHR by taking dry bulb (DB) and wet bulb (WB) readings in two areas: The properties of the air the equipment is starting out with; the air that is entering the indoor coil, and the air exiting the indoor coil that's being delivered into the conditioned space by the supply ductwork. In the next segment in this series, we'll look this procedure in detail.

Editorial Focus

Continued from Page 19

cost of ownership. The compact design of the G120X saves space in the control cabinet and can also be easily integrated in to MCC solutions (including plug-in buckets). Even without an additional output reactor, Sinamics G120X drives enable motor cable lengths of up to 492 ft. (150 m) with category C2 or C3 filter and up to 1476 ft. (450 m) without filter and have hardware-based SIL3-certified safety functions built-in. The G120X has Class 3C3 coating which is suitable for harsh environments where the presence of corrosive gases such as Hydrogen Sulfide (H2S) is present. A high C2 or C1 EMC category ensures the drive can be reliably used in any kind of industrial and public networks.

Sinamics G120X is compliant with all relevant EU and upcoming NEMA energy-saving standards and offers an operating efficiency level of over 98% (efficiency class IE2). Its comprehensive range of integrated application-specific functions for pumps and fans ensures improved energy efficiency through amount of actual energy needed in line with the actual load which ensures the best possible performance and minimal energy losses. Sinamics G120X is fit for digitalization and can be linked to Mindsphere by using Sinamics Connect 300 and the Mindsphere app Analyze MyDrives. This offers users the opportunity to analyze valuable operating data gathered from the drive and enables the visualization and analysis of status information, providing users with valuable data which can be used as the basis for process optimization

and maintenance strategies. Mindsphere is the cloud-based, open IoT operating system from Siemens that connects products, plants, systems and machines, while enabling a user to harness the wealth of data generated by the Internet of Things (IoT) with advanced analytics. **More information:** www.siemens.com.

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Unico Inc. Blower

Unico Inc., a manufacturer of small-duct central heating and air conditioning systems, announced its commitment to mitigating climate change by making highly efficient electronically commutated (EC) motors standard for all blower models within its modular air handling units. While the government has mandated all U.S manufacturers of interior air conditioning compo-



nents equip fan coil and blower units with EC motors by the end of the calendar year 2022 to receive efficiency ratings such as SEER and HSPF, Unico is making this change immediately. "From the basics of our design – smaller, tightly-sealed ducting with less thermal energy loss or leakage – to our Green Series air handling units, Unico is a proud leader of energy efficient, environmentally friendly, superior indoor comfort products," said Ashton Gavelek, marketing manager for Unico. "We're excited to once again be ahead of the curve in the industry by making EC motors standard in

all our fan coil unit and modular blower offerings." Gavelek notes that while Unico is not discontinuing use of permanent split capacitor (PSC) single speed motor-equipped blowers, they will only be made available upon specific request for like-for-like replacements and/or installations involving hydronic coils (chilled or hot), as no efficiency regulations currently exist for these applications. "Our installing contractors are the best in the industry," added Gavelek, "They are the early adopters of innovative, highly efficient technologies that ecologically conscious homeowners increasingly demand, so we know our excitement will extend to them in making these motors standard for most Unico System installations." **More information:** www.unicosystem.com.

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360 Cassette

This innovative, one-of-a-kind 360 Cassette is simply unrivaled. In fact, this circular cassette is the ultimate combination of technology and beauty, which delivers exceptional comfort. In other words, it's unbelievable.

Features:

Bladeless Design

Standard 4-way ceiling cassettes use blades on 4 sides of the unit to distribute air. This 4-sided distribution can cause up to 25% reduction in airflow and creates uneven room temperature, resulting in hot and cold spots. With bladeless technology and the use of 3 booster fans, the 360 Cassette provides even, horizontal airflow.

Directional Airflow Control

The booster fans can be individually set at the same or different angles within a 10-60° range. The swing function is available when all 3 booster fans are operating in unison.

Maximize Energy Savings

A Motion Detection Sensor (MDS) will automatically turn off or change the set temperature based on room occupancy and learn occupancy patterns to reduce run time between occupied and unoccupied times. Use of MDS is optional (sensor sold separately).

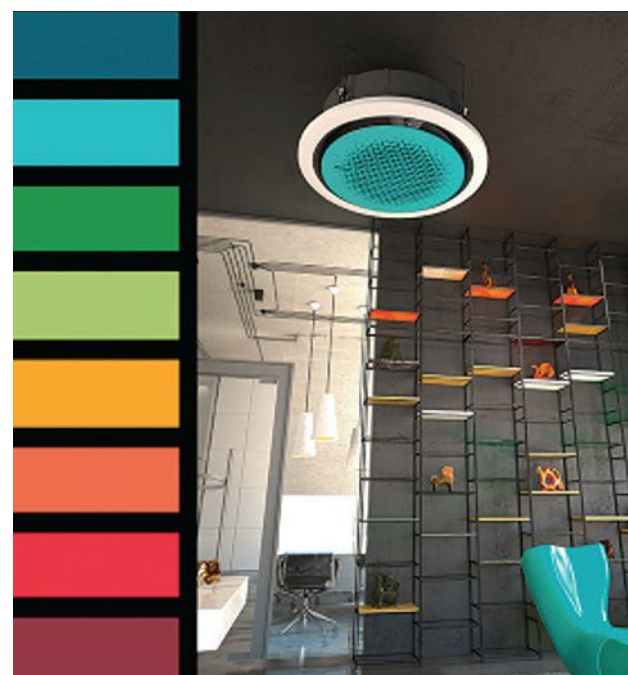
Advanced Commissioning and Service

360 Cassette is equipped with a removable EEPROM chip on the main circuit board to store unit option settings, serial number, unit tag, and other field programmed data. This allows for ease of startup, commissioning, product registration, and future service work when using Samsung service software (S-Net 3).

Style Options

The 360 Cassette is offered in both black and white for open-type (circle) and ceiling-type (square) fascia panel options.

Samsung offers custom printing on 360 Cassette panels so you can personalize the look and feel of your space with custom graphics or colors. Use your logo, color, pattern, or photograph in order to blend in or stand out.



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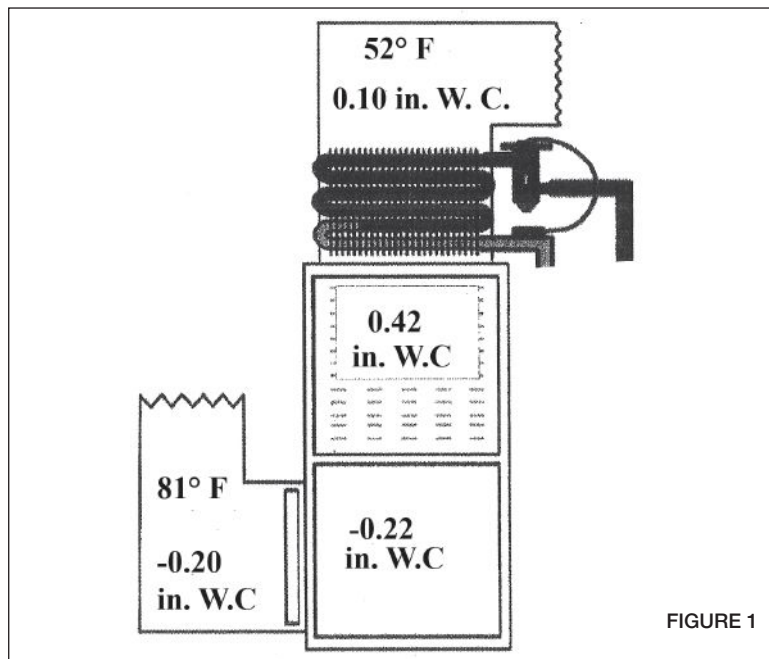


FIGURE 1

An Air Conditioning System That Won't Cool Enough

By Jim Johnson
Contributing Editor

In this month's troubleshooting situation, you are dealing with a 4-ton split system, and the customer's description of the problem is that the house "just isn't as comfortable as it used to be". When they called, they asked for an estimate of what it would cost to get a 'Freon' charge because they knew that the system had never been serviced since it was installed. They also told the dispatcher that the day before, they found that the filter was very dirty, and they replaced it.

When you arrive, you confirm that the indoor fan motor is operating. You also note that the condenser coil is clean, and the outdoor fan motor appears to be operating normally. When you access the R-410A system, you find a low side pressure of 103 PSIG

and the high side is 390 PSIG. The outdoor ambient is 95-Degrees.

At this point in your evaluation, you decide to accomplish specific checks in regard to the operation of the indoor segment of the system. **Figure One** shows the results of the tests you conducted.

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

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

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

Correct answers will be entered

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

Answer to Last Month's Problem

The next step is to replace the outdoor fan motor run capacitor. Your meter showed it was shorted, preventing the OFM from operating, which led to the compressor overheating and kicking off on its overload. The outdoor fan motor also needs to be evaluated before completing this repair.

The winner of last month's Troubleshooting is:

Miguel Martinez
Los Angeles, Calif.

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Learn more at www.fieldpiece.com

Industry Events

METUS Honors Diamond Service Group Distributors

Mitsubishi Electric Trane HVAC US LLC (METUS), a supplier of ductless and ducted mini-split and variable refrigerant flow (VRF) heat-pump and air-conditioning systems, recently celebrated the contributions of Mitsubishi Electric Diamond Service Group (DSG) members at the 2022 Diamond Service Group Conference in Atlanta.

The Mitsubishi Electric DSG network is comprised of 365 distributor personnel providing technical service support in North America, Latin America, and the Caribbean. DSG members serve as the local customer contact for troubleshooting and offer support and training for all Mitsubishi Electric systems sold and installed through the distributor network.

At the conference, distributors heard from METUS leadership. Distributors were provided with extensive technical instruction on current and future products for delivering faster, quality service support and resolution for HVAC contractors within their local markets. Approximately 150 participants attended each portion of the two-part conference.

"After a two-year, pandemic driven hiatus, we're grateful to host and directly engage our valued distributors," said Mark Rogers, director, DSG program and QA operations, Mitsubishi



Electric Trane HVAC US LLC. "This conference allows Diamond Service Group members to network with peers and receive training and technical support. This year's theme embodied our program's philosophy of teamwork. We recognize and support DSG members as essential to our team at METUS. DSG members support other DSG members through collaboration and sharing lessons learned on various products."

At the conference, METUS leadership, including Rogers, Brent Constant, director of technical solutions, and Mark Kuntz, chief executive officer, and Business Unit Technical Service Managers presented the Business Unit DSG Distributor of the Year Award to companies in each business unit. METUS recognized the following companies for their achievements:

- Mike Reed, Trane U.S. Inc. Commercial Sales Office, Nashville, Tennessee, South Business Unit
- Vincent Patti, Robert Delmauro, and Alex Dowzycki, Trane U.S. Inc. Commercial Sales Office, Pine Brook, New Jersey, Mid-Atlantic Business Unit
- Brian Groom, CFM Equipment Distributors Inc., Sacramento, Cali-

fornia, West Business Unit

- Mike Lumia, David Carette, Tim Williams, Craig Johnson, Tat Yuen, Justin Heinzman, Andre Correia, Robert Killion, Peter Pavlou and Brian Warren, Homans Associates, Wilmington, Massachusetts, Northeast Business Unit

- Brent Cox, Larry Armes, and Larry Marhofer, Young Supply Company, Chesterfield, Michigan, Central Business Unit

- Kelly Vinson, Robyn Boling, and Clint Jones, Trane U.S. Inc. Commercial Sales Office, Carrollton, Texas, Southwest Business Unit

- Aaron Vasquez Lopez, Caurus Ecoingeniería, Sinaloa, Mexico, International Business Unit

Mitsubishi Electric Trane HVAC US (METUS) is a leading provider of ductless and VRF systems in the United States and Latin America.

As a 50/50 joint venture between Trane Technologies and Mitsubishi Electric US, Inc., the company provides innovative products, systems and solutions capable of cooling and heating any application from a home to a large commercial building.

For more information, please visit www.metahvac.com.

Johnson Controls Backs Call on G7 to Consider New Carbon Prices, Limit Emissions

Johnson Controls Chairman and CEO George Oliver has co-signed a letter with a list of international company and organization executives urging the G7 to accelerate action limiting greenhouse gas emissions. One of the primary ways suggested was a ramp in carbon pricing. The letter makes the case for a price starting at around \$30 per tonne and potentially moving beyond \$120 per tonne if the world is forced to consider options such as drawing emissions directly out of the atmosphere.

The signatories have come together under the banner of the Sustainable Markets Initiative (SMI) – a collection of more than 400 CEOs and chaired by His Royal Highness the Prince of Wales. The shared goal is to accelerate the world's transition to a sustainable future. Companies co-signing with Johnson Controls include the Bank of America, Mahindra Group, Shell, and BP alongside organizations such as Wateraid UK and the Sustainable Food Trust.

"Climate change is a constant and increasing threat," said George Oliver, chairman and CEO of Johnson Controls. "While we must band together to tackle immediate shocks from energy supply and pricing and address the pain it's causing for people and business, we know that our current energy strategy is not sustainable and must be more resilient, reliable, and healthy. Whatever measures G7 leaders consider this week to help the global economy must balance short- and long-term needs and incentivize the private sector to do the right thing on sustainability investment. That includes ways to accelerate adoption of advanced technologies to optimize major emitting sectors such as buildings."

The buildings sector accounts for almost 40% of greenhouse gas emissions and it is a primary target for the United Nations and its Sustainable Development Goals. Johnson Controls has been operating in the sector

for nearly 140 years, with its founder Warren Johnson inventing the first electric room thermostat in 1883. Today, the company's innovators are using advanced technology to transform how buildings are controlled through the Johnson Controls OpenBlue platform. OpenBlue sits on top of buildings' operational technology, taking data from connected devices running heating, lighting, and ventilation and other systems, and it applies machine learning analytics – either locally or in the cloud – to manage performance in real-time.

The goal of Johnson Controls is to make future buildings more autonomous and far more sustainable, as well as smarter and healthier.

"We know that real energy security can only come from a strategy that cuts costs and carbon. The best place



JOHNSON CONTROLS CHAIRMAN AND CEO GEORGE OLIVER AT THE WORLD ECONOMIC FORUM.

to start is energy efficiency as technology today can dramatically cut energy consumption and emissions while boosting the bottom line," said Katie McGinty, Johnson Controls chief sustainability officer. "A major

acceleration of effort to upgrade buildings will bring more secure communities and a stable climate. G7 leaders have the opportunity and obligation now to drive action with smart policy and favorable investment incentives."

Innovation Awards

Continued from Page 14

encouraged to learn more about the awards and view the 2022 winners on the Innovation Awards webpage. All applicants can submit their entries via the dedicated portal. The deadline for entry is August 9, 2022.

There are many benefits to participation, including:

- Winners and finalists will be recognized at the 2023 show with special booth signage;
- Finalists will be announced on social channels one week before winner announcements, extending the opportunity for exposure longevity;
- All winners will be invited to celebrate with their colleagues

and industry leaders at a closed reception;

- Winners will be interviewed for a custom video months before the show and will be featured on the AHR Expo website and social media channels, as well as in industry media coverage; and

- Winners will be encouraged to promote their win on their communication channels.

Registration for the 2023 AHR Expo is open and available at www.ahrexpo.com. Attendees are also encouraged to sign up for the show newsletter to receive updates as they happen. To request more information about the Innovation Awards, or to receive forms for entry, please email Kim Pires at kpaires@iecschows.com.



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ASHRAE Recognizes Member Contributions at the 2022 Annual Conference

ASHRAE recognized achievements and contributions of members to the Society and the built environment industry during an honors and awards program at its 2022 Annual Conference in Toronto.

“ASHRAE’s honors and awards recipients exemplify excellence in our industry,” said 2021-22 ASHRAE President Mick Schwedler, P.E., Fellow ASHRAE, LEED AP. “We appreciate your contributions to the global built environment and your commitment to our Society’s mission to serve humanity by advancing the arts and sciences of HVACR.”

A list of the awards and recipients are below:

Lincoln Bouillon Award

Josh Bourbonniere, P.Eng., of the Ottawa Valley Chapter, received the Lincoln Bouillon Award, which recognizes a member who performs the most outstanding work in increasing membership. The award commemorates Presidential Member Bouillon’s efforts in recruiting new members.

Dan Mills Chapter Programs Award

Mitchell Rohrer, P.Eng., of the Hamilton Chapter, received the Dan Mills Chapter Programs Award, which recognizes excellence in chapter program endeavors.

William J. Collins, Jr. RP Award

Nathan P. Zeigler, P.E., of the Alaska Chapter, received the William J. Collins Jr., RP Award. The award, named in honor of Presidential Member Collins, recognizes a chapter RP chair who excels in raising funds for ASHRAE’s RP

campaign.

Government Affairs Award

Sonya M. Pouncy, of the Detroit Chapter, received the Government Affairs Award. The award recognizes individuals for outstanding effort and achievement in state, provincial, and local government activities in connection with technical issues related to the Society.

Donald Bahnfleth Environmental Health Award

Yuguo Li, Fellow Member of the Hong Kong Chapter, received the Donald Bahnfleth Environmental Health Award, which recognizes excellence in volunteer service focused on environmental health issues.

Homer Addams Award

Yunyang Ye, Ph.D., of the Oregon Chapter, received the Homer Addams Award, which recognizes a graduate student who has been engaged in an ASHRAE research project at a university that has graduate programs in the areas of heating, ventilation, and air conditioning, and has achieved a high standard of performance in this work.

Standards Achievement Award

Drury B. Crawley, Ph.D., Fellow Life Member, and Roger Hedrick, Life Member, received the Standards Achievement Award, which recognizes exceptional service in the area of standards leadership and technical contribution.

Ralph G. Nevins Physiology and Human Environment Award

Thomas Parkinson, Ph.D., of the Golden Gate Chapter, received the Ralph G. Nevins Physiology and Human Environment Award, which

is given to a researcher under the age of 40 for significant accomplishments in the study of bioenvironmental engineering and its effect on human comfort and health.

Student Activities Achievement Award

Muhammad Uzair, Ph.D., of the Pakistan Chapter, received the Student Activities Achievement Award, which recognizes a chapter student activities chair for growth of student activities.

ASHRAE Journal Paper Award

Rajavel Balaguru, Ph.D., Thomas Bise, and Paul F. Bauch, received the Journal Paper Award for the article, “Key Factors of Fan System Wire-to-Air Efficiency,” judged to be the best article published in ASHRAE Journal. The article was published in December 2021.

Science and Technology for the Built Environment Best Paper Award

David A. Rothamer, Ph.D., Scott Sanders, Douglas T. Reindl, Ph.D., P.E., Fellow Member, and Timothy Bertram, were recipients of the Science and Technology for the Built Environment Best Paper Award for “Strategies to minimize SARS-CoV-2 transmission in classroom settings: combined impacts of ventilation and mask effective filtration efficiency.” The article was published in October 2021. The award is for the best paper published in the volume year of the Science and Technology for the Built Environment, the ASHRAE research journal.

Crosby Field Award

Zhitao Han, Li Ding, and Gang Wang, P.E., Ph.D., were the recipients of the Crosby Field Award for “Experimental Investigation of Induction Motor Power Factor and Efficiency Impacted by Pulse Width Modulation Power and Voltage Controls of Variable Frequency Drives,” which was judged to be the best paper presented before the Society. The Crosby Field Award is named for a former Presidential Member.



Willis H. Carrier Award

Li Ding received the Willis H. Carrier Award given to a member 32 years of age or younger for presenting an outstanding paper at a Society conference. The award is presented for “Experimental Investigation of Induction Motor Power Factor and Efficiency Impacted by Pulse Width Modulation Power and Voltage Controls of Variable Frequency Drives.”

ASHRAE Technical Paper Award

The following papers received a Technical Paper Award, which recognizes the authors of the best papers presented at Society conferences:

- Dennis L. O’Neal, Ph.D., P.E., Fellow Life Member, Jessica Cramer, and Peng Yin, Ph.D., received an award for “Part-Load Airflow and Power Model of Multi-Speed Fan-Coil Units with Electronically Commutated Motors.”
- Dennis L. O’Neal, Ph.D., P.E., Fellow Life Member, Jessica Cramer, and Peng Yin, Ph.D., received an award for “A Simple Airflow and Power Analysis of Fan-Coil Units with Electronically Commutated Motors.”
- Chaitanya Sai Kodali and Stephen Idem, Ph.D., received an award for “Sizing Ducts Based on a Prescribed Friction Rate.”
- James W. Smallcombe, Magdalena Mlynarczyk, Ph.D., P.E., Jakob Eggeling, Simon Hodder, Ph.D., Amitava Halder, Ph.D., Kalev Kuklane,

Ph.D., Dennis Loveday, Ph.D., CEng, CPhys, and George Havenith, Ph.D., received an award for “Updated Database of Clothing Thermal Insulation and Vapor Permeability Values of Western Ensembles for Use in ASHRAE Standard 55, ISO 7730 and ISO 9920; Results of ASHRAE RP.”

Distinguished Service Award

The Distinguished Service Award salutes members of any grade who have served the Society faithfully and with distinction and who have given freely of their time and talent in chapter, regional, and Society activities. The following members were recognized:

- Tiffany Bates Abruzzo, senior application engineer, ClimaCool Corp, Oklahoma City, Okla.
- Marites D. Calad, vice president/branch manager, Norman S. Wright Mechanical Equipment Corporation, Waipahu, Hawaii.
- Jason W. DeGraw, senior R&D staff member, Oak Ridge National Laboratory, Oak Ridge, Tenn.
- Pankaj Dharkar, Fellow Member, president, Pankaj Dharkar & Associates, Ahmedabad, Gujarat, India.
- Joseph Firrantello, Ph.D., P.E., project engineer, McKinstry, Seattle, Wash.
- Jason Glazer, P.E., BEMP, principal engineer, GARD Analytics Inc., Arlington Heights, Ill.
- Paula Andrea Hernandez, P.Eng., vice president, Estudio MPH&H - Ingenieros Consultores, Buenos Aires, Argentina.
- John M. House, Ph.D., Fellow Member, principal, John House

Continued on Page 26

Duct Leakage Testing?



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Industry News

Continued from Page 12

and quickly began improving upon existing products to provide better industrial cooling solutions,” stated Kumar. “Today, we still consistently look for input from our customers and use their needs to develop new products.”

The Marley brand traces its history to the formation of the Power

Plant Equipment Company in Kansas City, Missouri in 1922. By the mid-1920’s, founders L.T. Mart and Chester Smiley had patented new spray nozzles and spray pond inventions, and combined elements of their last names to identify these products as the “Marley” brand. In 1928, the Marley Company was incorporated. The company was acquired by SPX Corporation in 2001 and today is known as

SPX Cooling Technologies.

“Over the next several years, we have a strategic path to double the size of our business in cooling, which will come from expansion of our product lines through innovations in R&D as well as acquisitions,” added Kumar. “We will continue to build on our future as we celebrate our historic past, and work on meeting the needs of our customers along the way with sustainable innovations.”

Product Spotlight

Wireless Technology: Your Secret Weapon for the Cooling Season

As you are doing more and more service calls this summer, a few advanced and techy HVACR tools in your bag could help make every call faster, easier and more accurate. The latest Job Link® tools from Fieldpiece use wireless technology to help make troubleshooting and diagnosing a system faster by giving techs an overview of the entire system in real time.

Back in the days before wireless tools, a tech would arrive on-site and need to rundown a checklist that covers airflow, refrigerant charge and the electrical components of the system to get to a more accurate diagnosis. Each test would be done independently, and each would take a lot of time. In fact, this used to be the main reason that diagnosing a system was the most time-consuming part of any service call. The other, more common scenario would have techs only focusing on one part of the system, typically located near the refrigerant charge and any other electrical components. This became the more common practice as it was the best way to save time and get to the next call.

Now, with wireless HVACR tools, techs are better equipped to work easier, faster and better the first time around. For instance, to determine the DeltaT a tech could rely on using two Job Link® Flex Psychrometer Probes, JL3RH; and for the Total External Static Pressure, a tech could use Job Link® System Dual Port Manometer Probe Kit – both wireless tools that enable more efficient work. And, at the same time, they can connect the Job Link® System Premium Pipe Clamp Probe, JL3PC and Job Link® System

Pressure Probe, JL3PR to the system and calculate superheat and subcooling. These tools can turn what would have been multiple attempts and extra time spent in the past into a quick, accurate system diagnosis. No more guesswork. No more scrambling around the jobsite to find another reading.

Right away, a tech will have the pertinent information they need to diagnose if the system is running poorly because of airflow or the refrigerant charge.

Wireless technology can also help a tech determine if there's an electrical problem with a system. Not only does it enable more accurate measurements, but wireless HVACR tools like the AC/DC Swivel Clamp Meter Dual Display, SC680 and the Clamp Meter Dual Display, SC480 are designed to complete the total diagnostic picture of the system. They enable electrical documentation directly to the Job Link® System.

These data points – like voltage going into the system or the amperage of the compressor when it's running – can be collected throughout the job and the tech can monitor their fluctuations as they make adjustments to other parts. These clamp meters also work on newer systems with Variable



THE FIELDPIECE FAMILY OF TOOLS AND TEST INSTRUMENTS.

Frequency Drives. If a tech is using an older meter to measure the voltage of these new drives, they won't get an accurate reading. These clamp meters can even be used to show a customer how much power in kW the system draws both before and after a service call – it's a great way for a tech to show how they improved the system's efficiency.

The entire Job Link System was designed with techs in mind. These new wireless tools will help a tech in

the field take measurements more easily, diagnose systems faster and allow real time readings to populate in one place, cutting out the extra steps!

What other Fieldpiece products with wireless technology is available to support tech during cooling season? Glad you asked:

- Wireless Vacuum Gauge, MG44 is built to make work easier, eliminating misleading measurements by allowing techs to connect

it at the system port – even in those awkward, hard-to-reach spots.

- Wireless Refrigerant Scale, SRS3 performs at a high level with a 250 lb. capacity, combining modern wireless electronics and rugged materials for accurate and live weight measurements.

The Job Link suite of wireless tools from Fieldpiece helps techs get it right faster and get it right the first time. Put some in your bag right now.



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New Products

Rotobrush BrushBeast DR



Rotobrush International LLC, a global market leader in providing indoor air quality solutions, announces the launch of a completely new air duct cleaning machine. The all new BrushBeast™ DR features next generation smart technology, more vacuum power, and more control while maintaining the same portability and ease of use that is known with the Rotobrush brand.

“The revolutionary new technology that the BrushBeast DR features is taking air duct cleaning to the next level,” said Bob Elledge, President and CEO of Rotobrush International. “Rotobrush is always looking to improve our products. We want to design equipment that not only is portable and powerful, but also is easier to operate. We have accomplished that with the BrushBeast DR.”

The BrushBeast DR (Drive) is equipped with smart, patent-pending technology. Featuring a newly designed direct drive system which has eliminated the need for pulleys. The brushless motor pro-

vides significantly higher efficiency, which also reduces costs and necessary labor for maintenance. It also helps to extend the life of the equipment and produces less heat and noise. The DR features four speed rotation settings ranging from 250 RPM to 500 RPM as well as an auto stop feature. The auto-stop feature will reduce tension and extra wear on drive cables. The speed settings allow the user to have more control over the machine and the cleaning applications.

With the upgrade to a direct drive motor, we were able to decrease the power used by the drive motor in exchange for a 20% increase in vacuum power. When compared to the original BrushBeast, the BrushBeast DR produces 20% more vacuum power and 105% increase compared to the Rotobrush aiR+.

More information:
www.rotobrush.com.

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Nu-Calgon FlareMate

Nu-Calgon has launched FlareMate™, a new series of easy snap-on flare seals that provide leak-free connections on HVACR equipment. FlareMate seals prevent costly refrigerant leaks by compensating for scratches on seal surfaces and other fitting alignment imperfections.

FlareMate seals can be used to provide leak-free connections



for new HVACR systems or for servicing existing systems. Applications include mini-split systems, TEVs and PRVs, pilot lines, high-pressure controls, filter driers, oil filters, LP gas lines and more.

Nu-Calgon's FlareMate seals are field proven and OEM approved. They are available in a variety of sizes and packages, including a wholesaler starter kit with a complete assortment.

More information:
www.nucalgon.com.

• • • • •

Watts iDROSET



Watts is pleased to introduce the iDROSET™ CSD Series of static balancing valves for hydronic heating and cooling systems.

iDROSET balancing valves offer contractors unprecedented speed and ease in balancing a hydronic system.

• Using patented flow measuring technology, iDROSET is the only static balancing valve that lets you set and read flow without any

additional tools.

• The valve features a large, easy-to-read gauge that continuously indicates flow without the need to actuate a bypass circuit.

• A simple twist of the ergonomic hand wheel sets flow and can be locked when the desired flow rate is set.

More information:
www.Watts.com.

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Taco Comfort Solutions VT Series



Taco Comfort Solutions' VT Series vertical turbine pumps provide the ultimate in reliability and ease of installation. With six-inch to 18-inch bowl diameters, the VT Series provides quiet, dependable performance for cooling tower, chilled water, water transfer, pressure boosting and water supply applications.

The Taco VT Series vertical turbine pumps offer upgraded materials of construction as standard features. All impellers are investment cast stainless steel to provide longer life and better abrasive and

corrosive resistance. All bowls and discharge heads are ductile iron for higher hanging weight and better tensile strength.

More information:
www.TacoComfort.com.

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NIBCO INC. Wrot Racer



NIBCO INC. introduces its Wrot Racer® push fittings, a new line of premium copper push fittings that are engineered to join copper, CPVC-CTS, PEX and PE-RT (with stiffeners) for easy transition between piping systems. With a patented fitting design, installations are easily made within seconds.

Wrot Racer push fittings are manufactured in the U.S. of 99.9 percent pure wrot copper. Naturally lead free, the fittings feature antimicrobial properties and zero dezincification, providing for safe, clean drinking water connections for both residential and commercial applications.

Available in 1/2" to 1" sizes, the lightweight and compact Wrot Racer fittings are able to be installed wet or dry and can handle applications up to 200 psi and 200 degrees.

More information:
www.nibco.com.

ASHRAE Awards

Continued from Page 24

Consulting Services, Saint Leonard, Quebec, Canada.

• Rupesh Iyengar, Ph.D., director, Services Consultants, Bangalore, India.

• Cameron Labunski, P.E., HBDP, HFDP, principal engineer, Tom Green & Company Engineers Inc., Austin, Texas.

• Maggie Moninski, P.E., senior mechanical engineer, SINGH + Associates, Chicago, Ill.

• Aakash Patel, CEO, Volpak Systems, Ahmedabad, Gujarat, India.

• Christopher Phelan, co-president, Thermco, Clifton, N.J.

• Jin Wen, Ph.D., professor, Department of Civil, Architectural, and Environmental Engineering, Drexel University, Philadelphia, Pa.

• Christopher Wade Williams, senior engineer, Trane Technologies, Clarksville, Tenn.

Exceptional Service Award

The Exceptional Service Award

recognizes Distinguished Service Award recipients who have continued to serve faithfully and with exemplary effort. The following members were recognized:

• Devin A. Abellon, P.E., business development manager - Engineering Services, Uponor North America, Apple Valley, Minn.

• Michael Brambley, Ph.D., Fellow Life Member, mechanical engineer, Pacific Northwest National Laboratory, Richland, Wash.

• Srinivas Katipamula, Ph.D., Fellow Member, staff scientist, Pacific Northwest National Laboratory, Richland, Wash.

• Dunstan L. Macauley, III, HBDP, director, Setty & Associates, Washington, DC.

• Kashif Nawaz, Ph.D., group leader, Oak Ridge National Laboratory, Oak Ridge, Tenn.

• Frank H. Schambach, Life Member, principal consultant, Total Building Concepts LLC, New Orleans, La.

• Randy Schrecengost, P.E., BEAP, Life Member, mechanical department manager, senior project manager 1, Stanley Consultants Inc., Austin, Texas.

Distinguished 50-Year Member Award

The Distinguished 50-Year Member Award is given to individuals who have been a member for a minimum of 50 years, and are either a past Society president, Fellow ASHRAE or Distinguished Service Award recipient, or who have performed outstanding service to ASHRAE or its predecessor societies – the American Society of Heating and Ventilating Engineers (ASHVE), the American Society of Refrigerating Engineers (ASRE), and the American Society of Heating and Air-Conditioning Engineers (ASHAE). The following members received this award:

• Andrew C. Åsk, P.E., Fellow Life Member, consulting engineer, Andrew C. Åsk, P.E., Ft. Myers, Fla.

• James J. Bushnell, Fellow Life Member, owner, HVAC Consulting Services, Solana Beach, Calif.

• Samuel D. Cummings, Jr., P.E., Fellow Life Member, retired president, Pettit & Pettit Consulting Engineers, Little Rock, Ark.

• Nicholas H. Des Champs, Ph.D., P.Eng., Fellow Life Member,

CEO, Des Champs Technologies LLC, Natural Bridge Station, Va.

• William S. Fleming, Fellow Life Member, owner, Jacwill Services, Madeira Beach, Fla.

• Bernardo Hubard, Fellow Life Member, retired, Mexico City, Mexico.

• Ronald J. Kessner, P.E., Life Member, retired, Ponte Vedra Beach, Fla.

• Tony McGuire, P.E., Fellow Life Member, founder, McGuire Engineers, Inc., Chicago, Ill.

• John Sosoka, Fellow Life Member, retired, Eagle, Idaho.

• Robert Suggs, P.E., Fellow Life Member, owner, RM3 Engineering Inc., Tucker, Ga.

• George E. Wells, III, P.E., Life Member, president, Agape' Energy Solutions, Hockessin, Del.

• Lynn F. Werman, P.E., Life Member, retired, Omaha, Neb.

Distinguished 75-Year Member Award

The Distinguished 75-Year Member Award is given to individuals who have been a member for a minimum of 75 years, and are either a past Society president,

Fellow ASHRAE or Distinguished Service Award recipient, or who have performed outstanding service to ASHRAE or its predecessor societies.

• Thomas Barrow, Jr., Life Member, retired, Atlanta, Ga.

• Eric H. Schwenker, P.E., Fellow Life Member, retired, Evansville, Ind.

Andrew T. Boggs Service Award

Jim Fields, Life Member, received the Andrew T. Boggs Service Award. The award, named after ASHRAE's executive vice president emeritus, recognizes an Exceptional Service Award recipient for continuing unselfish, dedicated, and distinguished service.

Louise & Bill Holladay

Distinguished Fellow Award

David E. Claridge, Ph.D., P.E., Fellow Life Member, received the Louise and Bill Holladay Distinguished Fellow Award. This annual award is given to an ASHRAE Fellow for continuous preeminence in engineering or research work. The honor was initiated in 1979 by Presidential Member Bill Holladay.

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AUGUST

Commercial Cooling Tower Module

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

Tues., Aug. 2 – Part 1

Tues., Aug. 9 – Part 2

SEPTEMBER

NATE CORE & Gas Heating Training

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

Wed., Sept. 7 – Part 1

Thurs., Sept. 8 – Part 2

Wed., Sept. 14 – Part 3

Thurs., Sept. 15 – Part 4

OCTOBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., Oct. 5 – Part 1

Thurs., Oct. 6 – Part 2

Wed., Oct. 12 – Part 3

Thurs., Oct. 13 – Part 4

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

SOUTHERN CALIFORNIA EDISON, IRWINDALE

SEPTEMBER

Air Distribution Module

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

Wed., Sept. 21 – Part 1

Thurs., Sept. 22 – Part 2

Wed., Sept. 28 – Part 3

Thurs., Sept. 29 – Part 4

OCTOBER

AC/HP Refrigeration Module

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

Wed., Oct. 19 – Part 1

Thurs., Oct. 20 – Part 2

Wed., Oct. 26 – Part 3

Thurs., Oct. 27 – Part 4

NOVEMBER

System Diagnostics Module

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

Wed., Nov. 9 – Part 1

Thurs., Nov. 10 – Part 2

Wed., Nov. 16 – Part 3

Thurs., Nov. 17 – Part 4

SOUTHERN CALIFORNIA EDISON, TULARE

SEPTEMBER

System Performance Module

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

Tues., Sept. 13 – Part 1

Wed., Sept. 14 – Part 2

Tues., Sept. 20 – Part 3

Wed., Sept. 21 – Part 4

OCTOBER

NATE CORE & Gas Heating Training

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

Wed., Oct. 12 – Part 1

Thurs., Oct. 13 – Part 2

Wed., Oct. 19 – Part 3

Thurs., Oct. 20 – Part 4

NOVEMBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., Nov. 2 – Part 1

Thurs., Nov. 3 – Part 2

Wed., Nov. 9 – Part 3

Thurs., Nov. 10 – Part 4

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

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

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PACIFIC GAS AND ELECTRIC COMPANY, STOCKTON

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AUGUST

System Diagnostics Module

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

Wed., Aug 31 – Part 1

SEPTEMBER

System Diagnostics Module

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

Thurs., Sept. 1 – Part 2

Wed., Sept. 7 – Part 3

Thurs., Sept. 8 – Part 4

OCTOBER

NATE CORE & Gas Heating Training

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

Mon., Oct. 10 – Part 1

Tues., Oct. 11 – Part 2

Mon., Oct. 17 – Part 3

Tues., Oct. 18 – Part 4

NOVEMBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Mon., Nov. 7 – Part 1

Tues., Nov. 8 – Part 2

Tues., Nov. 15 – Part 3

Wed., Nov. 16 – Part 4

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

AUGUST

System Performance Module

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

Wed., Aug. 3 – Part 1

Thurs., Aug. 4 – Part 2

Wed., Aug. 10 – Part 3

Thurs., Aug. 11 – Part 4

SEPTEMBER

Chiller Module

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

Tues., Sept. 6 – Part 1

Tues., Sept. 13 – Part 2

Commercial Cooling Tower Module

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

Tues., Sept. 20 – Part 1

Tues., Sept. 27 – Part 2

OCTOBER

Boiler Module

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

Tues., Oct. 4 – Part 1

Tues., Oct. 11 – Part 2

Commercial Refrigeration Module

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

Tues., Oct. 18 – Part 1

Tues., Oct. 25 – Part 2

NOVEMBER

NATE CORE & Gas Heating Training

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

Mon., Nov. 21 – Part 1

Tues., Nov. 22 – Part 2

Mon., Nov. 28 – Part 3

Tues., Nov. 29 – Part 4

DECEMBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Mon., Dec. 5 – Part 1

Tues., Dec. 6 – Part 2

Mon., Dec. 12 – Part 3

Tues., Dec. 13 – Part 4

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



red as Webinars
format is subject to change
g (Training)

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





CHARLES ABBOTT

AirSept, a leader in developing innovative solutions for the repair industry and manufacturer of the award-winning Smart Splice™ line connectors, A/C and HVAC service tools and indoor air quality chemicals, announces the addition of **Charles “Chuck” Abbott** as the company’s new vice president of sales & marketing.

Hired by Aaron Becker, AirSept’s president, Abbott’s expertise is in transforming businesses for profitable growth in the tool, equipment and chemical categories via multiple channels to the automotive and HVAC/R service markets.

Abbott previously served as Vice President, Global Automotive Sales for CPS Products, Inc. There, Abbott managed strategic accounts including Snap-on and Lockheed Martin and was the primary architect of a sales team that significantly grew sales with a focus on new, innovative products, leveraging private label programs, improving customer retention, and expanding distribution here and abroad.

AirSept President Aaron Becker, says, “Rarely do you find a candidate whose professional background and thought processes are so closely aligned to your company’s products and marketing needs. Chuck has a remarkable history of building brands for our specialized industry in addition to having long-standing excellent relationships with product managers with major automotive retailers, the mobility market, suppliers and manufacturer representatives. AirSept is poised for major growth with our inventory of over 20 award-winning professional service tools that saves time and money, which is especially relevant now with vehicles staying in service longer. I feel confident that Chuck, with his insight to our industry, his penchant for successful strategic planning, and new business development is the right person to capitalize on our strengths and develop a plan to catapult sales.”

Currently Abbott serves on the board of directors for the Automotive Maintenance & Repair Association and previously served on the board of directors for the Equipment Tool Institute. Abbott, a graduate of Lesley University, will

have a hybrid work schedule working primarily from his home in Indianapolis.

.....

SecureAire Technologies LLC has named **Jay Mrukowski** as regional sales manager for commercial markets. Mrukowski has over two decades of experience leading teams in the data centers market with annual sales over \$20 million.

Demand for indoor air quality (IAQ) products is forecasted to triple over the next decade, especially in the commercial space. In his new role, Mrukowski will focus on commercial installations for larger buildings, including schools, office buildings, airports, retail businesses, the hospitality industry, indoor agriculture, and more.

“Jay has a proven record of bringing in significant revenue in a fast-growing industry,” said Frank Stamatatos, president of SecureAire Technologies. “Thanks to Jay and our growing sales team, SecureAire is well-positioned to capitalize on the increased demand for IAQ. Everyone wants cleaner, safer air to breathe.”

Prior to joining the SecureAire team, Mrukowski served as the general manager at Vertiv (previously Emerson Network Power), a factory direct retailer which supplies materials to data centers. Mrukowski has worked for the company since 2000 where he served as a senior account executive and as general manager of the company’s factory direct outlet in Columbus, Ohio. Mrukowski holds a Bachelor of Arts in economics management from Ohio Wesleyan University in Delaware, Ohio.

Following a multimillion-dollar capital raise at the end of 2020, SecureAire has made several senior hires, including most recently Ben Rizzo as chief executive officer and Kathy Parry as vice president of commercial sales. SecureAire exceeded its goals over the past year, laying the foundation for further expansion. Mrukowski will work



JAY MRUKOWSKI

alongside SecureAire’s vice president of commercial sales, Kathy Parry, to expand the company’s profile nationwide.

.....



MARK AVRON

Bradford White Corporation, a manufacturer of water heaters, boilers, and storage tanks, announced the hiring of **Mark Avron** as national sales manager for the company’s hydronics product division.

Avron joins the growing Bradford White hydronics team led by veteran industry executive Jim French.

“We’re investing in building an experienced, expert sales and support team to help Bradford White continue to meet the growing demand for our hydronics products,” French said. “With his knowledge and drive, Mark is an ideal fit to lead this team and help us provide customers with some of the industry’s leading boiler and specialty products solutions.”

Avron has more than 25 years of experience in heating sales. His most recent position was director of hydronic sales for Triangle Tube.

The hydronics team Avron will join includes Tom Kelly, the technical sales manager for Bradford White’s hydronics division; Nate Warren, business development manager – specialty products; Jack Brody, technical sales representative – Upper Midwest; and Weston French, Mid-Atlantic district sales manager – specialty products.

“Bradford White is committed to being a leader in all aspects of the water and space heating industry,” Avron said. “Jim and the hydronics team demonstrate that dedication every day. Their hard work, industry knowledge, and the trust they’ve built with our customers are the foundation of our success, and we’re looking forward to continuing to provide products and services that exceed our customers’ expectations.”

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Unico, Inc., a manufacturer of small-duct central heating and air conditioning systems, has appointed **Gareth Richards** as its West

Coast territory manager. Richards will be factory representative for The Unico System in California, Oregon, and Washington.

“After an exhaustive search we found a true professional to help us build our dealer base in the Western part of the United States,” said Shannon Intagliata, sales director for Unico. “We’re very excited to welcome Gareth into the Unico family.”

Richards brings 20 years of strong sales and territory management experience to Unico. Born in the United Kingdom, his family emigrated to California when he was a boy. Richards once owned an import business bringing goods from India to the U.S. market. In the years since, he has worked with industrial and facility maintenance customers. His latest role before joining Unico was as a maintenance contract sales representative for a commercial HVAC firm.

When asked what drew him to The Unico System, Richards replied, “The distinctive nature of the product – its flexibility and ability to provide more efficient and effective heating and cooling. High-end customers want the latest and best technology for their homes and The Unico System delivers that in spades.” He added, “I love that Unico is a family-owned business – that’s important to me.”



GARETH RICHARDS

.....

Malco Products, SBC, one of the nation’s leading manufacturers of high-quality, American-made tools for the HVAC trade (Heating, Ventilation and Air Conditioning), announced that **Nancy Gunnerson**, director of marketing, has been named one of Twin Cities Business Magazine’s Notable Women in Manufacturing for 2021.

The women awarded this recognition are executives in manufacturing based in Minnesota who have at least five years of experience in manufacturing, and have demonstrated leadership in projects within their company to create significant, positive and measurable results.

“Malco’s brand has been built over the past seven decades as a



NANCY GUNNERSON

symbol for pride in ownership, innovation, and professionalism in the markets we serve. Nancy and her marketing team have been the force behind those results for more than 30 years,” said Malco president and CEO Rich Benninghoff. “Nancy is an inspirational leader who leads through action, and lives Malco’s core values every day. We are proud to work alongside her and fortunate to have Nancy leading our marketing efforts into the future as we grow and extend our business and capabilities.”

Having been with the company 32 years, Gunnerson has deep marketing and sales expertise in the manufacturing field. In the last 18 months, Gunnerson has overseen several innovative programs, including a new e-commerce tool, customer loyalty program and influencer relations campaign, that have contributed to the company’s current record-breaking month-over-month growth.

.....

Tradewinds Climate Systems 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, vice president of sales and marketing, Tradewinds Climate Systems. “His knowledge of the ductless and VRF business is extensive, which brings tremendous value to us.”

Butler held previous leadership



DUANE BUTLER

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

Indoor People

Continued from Page 30

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,” said 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.”

F.W. Webb Company announced the appointment of **Deanna O'Donnell** as vice president of marketing. In this role, she will oversee the alignment of corporate, product, and market strategies across the company’s wholesale business and more than 48 Frank Webb Home retail showrooms.

“Deanna brings tremendous experience and insight earned from working with a range of organizations at different stages of growth and maturity,” said Bob Muciarone, chief operating officer,



DEANNA O'DONNELL

F.W. Webb. “She is a valuable addition to our executive team with a proven track record of success. Her focus, energy, and talent will be instrumental in continuing to differentiate F.W. Webb as a market leader.”

O'Donnell held previous leadership positions at start-ups and publicly-traded companies where she led integrated marketing campaigns and programs. At F.W. Webb, she will be responsible for the structure, strategy, and execution of company-wide initiatives to broaden brand reach and drive demand for F.W. Webb’s portfolio of products, services, and solutions.

O'Donnell joins the F.W. Webb executive team as the company continues to expand across the Northeast. They recently opened their third wholesale store in New York City and eighth location in Connecticut.

NEW IHACI MEMBERS

- GE Appliances Air & Water Solutions, Louisville, KY

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Jim Johnson
Contributing Editor

Rick Torres / Calavera Graphics
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