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JUNE 2022

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NEWS

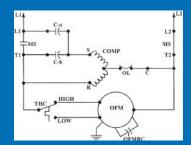
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Editorial Focus

What's new? What's been improved? Find out here as ICN takes a look at the latest offerings in Residential Cooling.

Page 22



Troubleshooting

In this month's problem, a customer is complaining that their 12-year-old heat pump isn't keeping people comfortable.

Page 31



Indoor People

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

Page 35

Energy Commission Examines Heat Pump Goals, Supply Chain Issues

By Ted Rieger, Northern California Correspondent

The California Energy Commission (CEC) recommends a statewide goal to install 6 million new heat pumps in California buildings by year 2030 in efforts to

meet California building decarbonization goals. The CEC held a workshop April 5 to examine heat pump (HP) goals, potential supply chain issues and programs to increase HP adoption and installation.

The CEC put forward its HP initiative in the 2021 Integrated

Energy Policy Report (IEPR) issued in February 2022 under "Goal Setting to Advance Building Decarbonization." The IEPR explains the need to replace existing equipment stocks with low-carbon emission alternatives (electric HPs). As stated in the IEPR Executive Summary:

"The key space and water heating equipment that drives the bulk of on-site greenhouse gas (GHG) emissions has an expected lifetime of one to two decades. That makes the market transformation of new equipment sales a key priority. Heat pumps are a critical enabling technology for achieving building

decarbonization. As such, the CEC is recommending a goal of installing at least 6 million heat pumps by 2030. Further, the CEC commits to working with stakeholders-including manufacturers, labor, and environmental advocates – to

Continued on Page 18

New Initiative Seeks to Advance Careers for Women in HVACR Field

Tumerous international organizations have launched an initiative to advance career opportunities for women in the cooling sector. The International Network for Women in Cooling (INWIC) was created to advance engagement, promote career opportunities, and increase overall participation of women in the cooling sector, which includes refrigeration, air-conditioning, and heat pumps (RACHP). The initiative is led by the World Refrigeration Day (WRD) Secretariat and the United Nations Environment Programme (UNEP) OzonAction, in cooperation with many international organizations, including ASHRAE,



IIR, and Women in HVACR.

Although women make up half of the world's population, they are significantly and visibly underrepresented in the RACHP sector in all roles. INWIC seeks to reverse that trend. It is doing so while recognizing that there are many

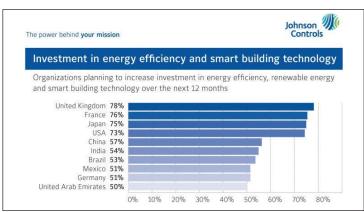
Continued on Page 18

Johnson Controls Survey Announces Findings of Annual Energy Efficiency Indicator Survey

Investments in sustainability have rebounded to prepandemic levels, yet challenges remain.

Johnson Controls announced findings from the 15th annual Energy Efficiency Indicator Survey, which revealed that 62% of organizations surveyed expect to increase investments in energy efficiency, renewable energy, or smart building technology in 2022, indicating a return to pre-pandemic levels.

The latest report by the United Nations Intergovernmental Panel on Climate



Change advised that global scale transformation is urgently needed to combat climate change, however, the Johnson Controls Energy Efficiency Indicator Survey found that organizations are still facing challenges to accelerate their sustainability efforts in key ar-

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DEPARTMENTS

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IHACI 2022 Training Schedule

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INDOOR COMFORT NEWS







KEEPING YOU READY FOR WHAT'S NE



The regulation of energy efficiency and emissions continue to spur change in the HVAC industry. Effective in 2023, we will see significant changes in energy efficiency criteria and ratings that will affect residential and commercial equipment throughout the U.S. Soon afterward will be the national phase down of hydrofluorocarbon (HFC) refrigerants, which will mean a transition to lower global warming potential (GWP) refrigerants for air conditioning.

ENERGYGUIDE

- Visit Ferguson HVAC / Ruud M1 Resource Services Guide: https://www.ruuddealerresourcecenter.com/category/2023-government-regulations/
- Visit RUUD Manufacturing: HVACKnowZone Ruud

WHAT YOU NEED TO KNOW

In response to the new standards, Ferguson / Ruud is committed to keeping you continually informed and prepared. Our teams can help you understand what you need to know about:

- · 2023 Minimum Efficiency Standards
- DOE New Efficiency Standards by Region
- M1: A New System of Measurement
- Navigating Regional Standards
- Understanding Compliance in Your Region
- Enforcement / 2025 Refrigerant Changes
 - For equipment match-ups, orders and general equipment questions, please contact your Territory Manager.
- For technical HVAC questions, please contact your local Technical Service Advisor.

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Industry News



CALIFORNIA



Gryphon Investors Buys Ed's Supply

San Francisco, Calif. – Gryphon Investors, a middle-market private equity firm, announced it has acquired Ed's Supply Company Inc., a wholesale distributor of HVACR equipment, parts, and supplies with 19 locations across Arkansas, Georgia, Kentucky, and Tennessee. Financial terms of the transaction were not disclosed.

Gryphon plans to operate Ed's Supply as an independent division of its Heritage Distribution Holdings platform, which recently rebranded from Wittichen Supply Holding Company. Ed's Supply will join two existing companies, Benoist Brothers Supply Company, a Midwest-based regional distributor of HVACR equipment, parts, and supplies, and Wittichen Supply Company, a wholesale distributor of HVACR equipment, parts, supplies, and customer service to residential and commercial customers based in the Southeastern United States.

"We are excited to add Ed's Supply to our multi-region distribution platform as we continue to expand," said Craig Nikrant, Gryphon's dedicated operating partner to its Heritage Fund team. "The company's proud history and focus on top-quality customer service makes it a great fit with our family of brands. With a growing multi-regional reach, we see a bright future for Heritage Distribution Holdings in an industry with a long runway for growth."

"We are thrilled to welcome the entire Ed's Supply team. Their robust product and service offerings are highly complementary to our existing lines and their strategic footprint will help us round out our presence in the attractive Southeast market," added Alex Averitt, CEO of Heritage Distribution Holdings.

Headquartered in Nashville, Tennessee, Ed's Supply serves both the commercial and residential markets and features one of the largest inventories of HVACR parts, equipment, and air distribution products in the Southeast. Steve Byram, former president of Ed's Supply, will become an advisor to the Heritage Distribution Holdings management team. His son Tucker Byram, most recently vice president of operations, Nashville, will become president, and the current management team will remain with the company.

"We are delighted to become part of Gryphon's Heritage Distribution Holdings platform with its broad financial and operational resources," Byram said. "As part of a larger organization with a reputation for superior customer service, Ed's Supply will continue to deliver premium service as we take advantage of additional growth opportunities."

Heritage Distribution Holdings was advised by legal counsel Kirkland & Ellis. Waller Lansden Dortch & Davis, LLP served as legal counsel to Ed's Supply, PNFP Capital Markets, Inc. served as exclusive financial advisor to Ed's Supply, and Lakoff & Co. served as accounting advisor to Ed's Supply.

EGIA Contractor University Launches Online Training

.

Sacramento, Calif. – Contractor University, a division of Electric & Gas Industries Association (EGIA), announced the addition of an online technical training program to its collection of member benefits. Through a partnership with Interplay Learning, a digital and virtual reality technical training platform for the essential skilled trades, Contractor University now adds a technical training option to its membership offerings.

For years, Contractor Univer-

sity powered by EGIA has offered business development educational resources, covering a broad range of topics – such as sales, pricing, marketing and lead generation, tech communications, service agreements, and many others – accessible through online classes, virtual and in-person workshops, conferences, and more. For the first time ever, technical training now joins that list of offerings.

For one price per user, Contractor University member companies can add-on access to technical training for their employees on dozens of subjects in their member dashboard on MyContractorUniversity.com. Courses are delivered in both 2D and 3D simulations on computers and mobile devices, as well as in immersive 3D on virtual reality headsets. This eliminates substantial travel, time, cost, as well as other logistical and safety hurdles encountered with traditional in-person training programs, while still allowing a "hands-on" experience. With curriculum available for residential and commercial HVAC, solar, plumbing, electrical, multi-family maintenance, and many more, Contractor University technical training offers users comprehensive online and streaming training systems on every topic needed to brush up on existing skills or build a new technician from the ground up. In addition, much of the content qualifies for CEU credits toward

many of the most prominent certification programs.

"Given the requests from our members over the years, adding a technical training option to our online education and training platform is the logical next step to serve more contractors," said Bruce Matulich, CEO and executive director of EGIA. "Partnering with Interplay gives our members access to some of the best technical training in the industry with an easy integration that maintains the simplicity of our 'one-stop-shop' Contractor University member dashboard. Due to the industry's ongoing workforce shortage, contractors are increasingly forced to hire inexperienced workers based on attitude, and then teach them aptitude; so a reliable, affordable technical training experience has never been more important to growing a successful contracting business.'

"We're excited to partner with EGIA and we believe Contractor University will be a great opportunity for more home services contractors to benefit from both our immersive experience and proven learning methodology," said Doug Donovan, CEO of Interplay Learning. "With our advanced technology and EGIA's industry-leading education and training platform, we have the opportunity to significantly close the skills gap."



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



Forrest Anderson Inducted into ASU Class of 2022

Glendale, Ariz. – Forrest Anderson Plumbing and Air Conditioning Inc. (Forrest Anderson), a Glendale-based, family-owned business serving the greater Phoenix metro area since 1961, was honored as one of the fastest-growing alumniowned organizations during the Sun Devil 100 Class of 2022 induction ceremony by Arizona State University's (ASU) Alumni Association. Forrest Anderson

Continued on Page 6

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Visit Opteon.com/GoBeyond to learn why XL41 is the optimal choice for the HFC phase down landscape of the HVAC industry.



Industry News

Continued from Page 4

was listed as the highest-earning air conditioning service company and the sole plumbing service company inducted into the Class of 2022.

"I am so thankful for the opportunities ASU has opened up for me. This is an amazing achievement for myself and my company," said Audrey Monell, president of Forrest Anderson. "It is an incredible experience to connect back to my alma mater with this honor. The Sun Devil spirit influences our team at Forrest Anderson to elevate the customer experience and have an active presence in our community with innovative solutions."

Forrest Anderson joined the Class of 2022, which features 136 ASU alumni representing 107 organizations throughout a variety of industries. Together, the Class of 2022 achieved revenues of \$15 billion for the last year, employed more than 130,000 people, and are located across 13 states.

"This is the eighth year Sun Devil 100 has celebrated entrepreneurs, changemakers, and leaders who have graduated from ASU," said Christine Wilkinson, president and CEO of the ASU Alumni Association. "In alignment with ASU's charter, we are expanding the awards program to include revenue tiers and showcase more ASU alumni-owned and -led organizations. We are proud of each alum and the impact they've made in their fields."

Monell graduated from ASU's W. P. Carey School of Business with a Bachelor of Science in Economics in 2008 and has been

leading the third generation of her family's business for over 14 years.

TEXAS

San Antonio Hosts Fujitsu Distributor Conference

San Antonion, Texas – After a twoyear hiatus, Fujitsu General America, Inc. held its fourth National Distributor Conference in San Antonio.

The conference, which took place the week of April 11, was held at the



MATT PETERSON, FUJITSU PRESIDENT AND COO, ADDRESSES REPS AND WHOLESALERS AT THE COMPANY'S RECENT DISTRIBUTOR CONFERENCE.

JW Marriot San Antonio. Roughly 265 reps and wholesalers attended.

"Challenge of Change" was the theme of the event, and fitting, considering much of the conversation at the event covered the changes that Fujitsu is making to ensure quality, availability and support in a post-Covid market ripe with raw material, manpower and shipping challenges

"Coming into this conference during what we hope is the tail end of a pandemic, we were a little concerned about attendance," said Fujitsu President and COO, Matt Peterson. "I could not be happier with the results of the meeting. I really appreciate the positive vibe everyone brought to the event."

"This event gives us time to spend with our valued partners," said Fujitsu's Dennis Stinson, VP of Sales. "It provides an opportunity to discuss our new programs and bring our partners up to date on where we are with supply chain logistics and what we're doing about the challenges our industry faces right now, improving the flow of product through their distribution centers and ultimately to our contractors."

Between breakout and general sessions, attendees golfed, enjoyed the extensive pool facilities or toured The Alamo and San Antonio's Riverwalk. Entertainment on the final evening was provided by the appearance of a Texas Longhorn, armadillo races and fire dancers.

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

Johnson Controls-Hitachi Renovates Texas Headquarters

Dallas, Texas – Johnson Controls-Hitachi has transformed their Dallas-area headquarters into an immersive product showroom and training facility. The new Customer Experience Center, which opened on April 20 in Irving, Texas, features commercial, light commercial,

Continued on Page 8



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



Industry News



INSIDE JOHNSON CONTROLS-HITACHI TRAINING LAB IN DALLAS.

Continued from Page 6

and residential ductless HVAC equipment in two showrooms along with fully operational equipment in an interactive, state-of-theart training lab.

The grand opening featured a ribbon cutting ceremony and town hall session hosted by Shoji Akiyama, vice president and general manager of Johnson Controls-Hitachi.

"As our workplace model evolved during the pandemic to a remote-friendly format, our headquarter building was underutilized," said Akiyama. "We took this opportunity to reconsider how we could better serve our partners and customers, and developing the new Customer Experience Center was the clear solution."

The two showrooms within the 10,400-square-foot facility will be utilized as a showcase for the full product offering for both Hitachi and YORK ductless products. The training lab will offer hands-on training to contractors, technicians, and installers on live Hitachi and YORK equipment with training courses available on installation and commissioning for up to 20 students at a time. The Dallas location is the second Hitachi training lab to open in North America, and it's part of a nationwide initiative by Johnson Controls to train the next generation of the HVAC workforce.

Training sessions are now available for enrollment and mark the return of in-person courses since moving to an online format in March 2020.

RectorSeal and **TRUaire Celebrate Continuation of** Scholarship Program

.

Houston, Texas - RectorSeal, a manufacturer of HVACR and plumbing tools and accessories, and a wholly owned subsidiary of CSW Industrials Inc., recently recognized scholarship recipients in Vietnam in the continuation of a program originated by TRUaire.

TRUaire, which has a manufacturing facility in Ho Chi Minh City and was acquired by RectorSeal in December 2020, launched the University of Economics and Law Ho Chi Minh Scholarship program in 2019. RectorSeal President Don Sullivan said the program celebrates students' achievements and will continue because it aligns with CSWI's core values and RectorSeal's sense of corporate citizenship.

"Being members of a community that strives for excellence helps drive us forward as a business, and this program embodies these values," said Sullivan. "Helping tomorrow's leaders succeed today is important to CSWI and RectorSeal."

The scholarship program has helped more than 80 students achieve their educational goals over the past three years, most of whom attended February's scholarship ceremony for this academic year's recipients, which was held at TRUaire's manufacturing facility in Ho Chi Minh City. In addition to these scholarships, TRUaire offers a program for dependents of employees that is similar to the CSWI Scholarship Program in the U.S.

NATIONAL



ACCA Seeks 2022 Service Manager of the Year Nominations

Alexandria, Va. – The Air Conditioning Contractors of America (ACCA) is seeking nominations for its 2022 Service Manager of the Year award. Each year, ACCA presents the Service Manager of the Year award to one outstanding individual. This year, ACCA will present the award at ACCA's Service Managers Forum, taking



STUDENTS AND SCHOLARSHIP RECIPIENTS GATHER FOR A GROUP PHOTO IN VIETNAM.

place September 14-15, 2022, in Baltimore, Maryland.

Service Managers who work for an ACCA member company in good standing are eligible and must be nominated by their company's owner, president, or general manager. The ideal candidate promotes teamwork amongst all departments, emphasizes the importance of continuous training and learning, develops programs to motivate employees, and focuses on providing superior customer service.

"Honoring ACCA members for being exceptional leaders in our industry is one of the greatest duties ACCA has as an association," said Barton James, ACCA president and CEO. "We know the best contractors in the country are our members and that means they have the best teams. This is an extremely competitive award each year and we look forward to seeing the competition heat up as the nominations start rolling in."

To nominate a service manager, the owner, president, or general manager of an ACCA member company must submit the online form at acca.org/members/awards/ smotyaward. The deadline to submit a nomination is July 31,

Thermostat Recycling Launches Annual Banish Mercury Contest

New York, N.Y. - Thermostat Recycling Corporation (TRC) has launched its 11th annual Banish Mercury Off the Planet (BMOP) competition.

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

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

"Despite the disruption and

inconvenience of the coronavirus pandemic, HARDI wholesalers continued to demonstrate their commitment to safely collecting and recycling mercury-containing thermostats," said Danielle Myers, operations and compliance manager, TRC. "The success that TRC has experienced through several decades rests largely on the shoulders of our wholesalers, whose dedication to a clean and safe environment has been overwhelming. For that reason, we applaud all HARDI wholesalers that participate in the collection process."

The BMOP contest began May 1 and concludes Oct. 31.

HARDI members do not have to sign up to enter the contest. All they must do is return thermostats collected through the bins that TRC places in HARDI wholesale member branches throughout the United States.

HARDI members are in every state and have collection bins where their customers - HVACR contractors - can conveniently deposit the thermostats.

The Banish Mercury Off the Planet contest, originally called the Big Man on Planet until 2018, recognizes winners in three categories:

- Distributor that recycles the most pounds of mercury overall.
- Distributor that recycles the highest average pounds of mercury (total pounds divided by branch count locations that submitted a collection bin).
- Distributor with the highest participation rate (for distributors with more than 10 locations).

TRC will publicly recognize the winners of each category at HARDI's annual conference, Dec. 3 to 6, 2022, in Houston, Texas. Previous winners of the contest

2021: Johnstone Supply, Famous Supply and Geary Pacific 2020: Johnstone Supply, APCO Inc. and Allied Refrigeration.

2019: Johnstone Supply, Dubuque Supply and Johnson Supply.

2018: Johnstone Supply, Meier Supply Co., and Johnson Supply. 2017: Johnstone Supply, Tower Equipment, Johnson Supply. 2016: Johnstone Supply, Gustave Larson, Auer Steel.

2015: Auer Steel, Johnson Supply, US Air Conditioning Distributors, and Johnstone Supply.

2014: Corken Steel Products, Crescent Parts & Equipment, and Johnstone Supply.

2013: Johnstone Supply. 2012: Johnson Supply.

Thermostat Recycling Corp., founded in 1998, is an industryfunded nonprofit corporation supported by 29 manufacturers that historically branded and sold mercury thermostats in the United States. TRC maintains a network of more than 3,600 collection sites nationwide and has recovered more than 2.7 million thermostats containing 12 tons of mercury since its inception. TRC assumes all costs to transport and properly dispose of mercury switch thermostats recovered from service. To learn more about TRC, visit www. thermostat-recycle.org.

Bell Brothers Receives Carrier's Top Honor for 2021

.

Des Moines, Iowa - Bell Brothers Heating and Air Conditioning announced it received the 2021 President's Award from Carrier, a manufacturer of heating, air conditioning, and refrigeration solutions. This is the fifth time Bell Brothers has been recognized with Carrier's highest honor for its dealers in the last seven years.

The President's Award is given out annually to Carrier dealers who exemplify the company's model for operational excellence, business effectiveness, and delivering the best in cutting-edge technology to consumers. The award honors companies committed to offering quality HVAC systems and top-notch customer service.

"Taking care of our customers is our number one priority, and receiving this award again validates

Continued on Page 10

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GAW14L36C21S	3.0	14	35-1/4	33-1/4	31-3/4	195	
GAW14L42C21S	3.5	14	35-1/4	33-1/4	31-3/4	195	
GAW14L48C21S	4.0	14	38	36-1/4	34-1/4	200	
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Industry News

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that continued commitment," said Jason Gassmann, president of Bell Brothers. "It's a responsibility we take very seriously. We appreciate that our customers have trusted us with their home comfort for more than 60 years."

For Gassmann, focusing on new technology and training top talent are key to providing the best customer experience in the Des Moines metro area.

"We're always looking for new ways to ramp up our service offerings and provide added value to our loyal customers," Gassmann said. "By having the right people with the right training and the right tools on our team, our customers get the best performance from their HVAC system."

Bell Brothers accepted the award virtually on April 13, 2022.

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Danfoss Climate Solutions Launches New Podcast

Baltimore, Md. – Presented by Danfoss North America, the Controller Talk podcast highlights best practices for using Danfoss controls in the supermarket and warehouse industries.

Every other week, Danfoss' food retail tech support experts David Yoder and Christopher Brown share information and field service best practices that listeners won't find in a manual. Their insight can help the audience solve problems, design energy management controls, and troubleshoot systems they might not see every day.

"Hosting the Controller Talk podcast has been a fun experience for Chris and me," said Yoder, Danfoss senior technical support engineer. "Our goal is to get the information out about Danfoss products in a fun and educational format."

"We hope that our casual approach makes subjects that might appear a bit dry on the surface more enjoyable, allowing for an entertaining, laid-back discussion," said Brown, Danfoss technical support manager.

The Controller Talk Podcast is available on Apple Podcasts, Spotify, Google Play, or wherever you get your podcasts. Additionally, the podcast can be found on Danfoss' RefTools App, the essential, all-inone mobile app for air conditioning and refrigeration technicians, and the Danfoss North America YouTube channel in its video format.

BELL BROTHERS STAFF WITH THE CARRIER PRESIDENT'S AWARD.

U.S. Rep Revisits Geo-Flo Plant

Bedford, Ind. – U.S. Representative Trey Hollingsworth, Indiana 9th District, visited the Geo-Flo plant in Bedford on April 18.

Rep. Hollingsworth's second factory tour of Geo-Flo comes at an important time as the United States again faces questions of energy independence, rising fossil fuel prices, and the importance of renewable energy such as geothermal heating and cooling systems.

"Not only has Geo-Flo Corporation invested in Indiana for decades, providing Hoosiers jobs and helping bolster our state's economy, but their work in geothermal heating and cooling has made clean and renewable technology increasingly accessible to Americans and businesses across the country as our nation collectively underscores the importance of finding sustainable energy sources and strengthening our energy independence," said Rep. Trey Hollingsworth.

These systems extract heat from the earth's surface and use this energy to heat homes and businesses in cold months and reverse the process to cool buildings during the summer. Geothermal heat pumps eliminate the point-of-use of fossil fuels such as propane, fuel oil, and natural gas at a substantial savings to consumers and help move the country toward energy independence.

Company president Tom Wyer provided Hollingsworth with an update of Geo-Flo's business and the industry. Wyer recounted how the residential geothermal market contracted around 50% in 2017 when the omnibus bill passed by Congress in December 2015 extended tax credits for the solar industry but left out geothermal. Rep. Hollingsworth did lend support to H.R. 1090 in 2016 that would have provided equity for the geo industry, but it ultimately failed. Fortunately, a spending bill signed into law in February 2018 rectified the situation; however,

the damage caused the industry and Geo-Flo's business to recover at a very slow rate only recently rebounding to pre-2017 numbers. Wyer reminded Rep.Hollingworth that the current tax provisions are set to expire at the end of 2023 and Congressional action is needed to ensure a stable business environment that will allow companies like Geo-Flo to hire employees and commit to large expenditures such as new CNC machines.

According to Wyer, Rep. Hollingsworth appeared receptive to the message. "Trey seemed pleased that his past support has had a positive impact on our business and the other companies in Indiana that manufacture equipment, install systems, and support the geothermal industry", stated Wyer. He continued, "I was impressed that he understands this technology provides good jobs here in Indiana and across the U.S. that cannot be exported and I'm happy he mentioned the importance of maintaining a level playing field for all technologies." Supporting a technology that saves consumers money, uses domestic components (nearly all geothermal heat pumps installed in North America are made in the U.S.A.) and labor, and has a positive environmental impact, is not only important for energy independence and the economy, but also good political policy as younger voters with growing environmental concerns have become a political force.

Heartland Home Service Welcomes GreenBox HVAC

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Grand Rapids, Mich. – Heartland Home Services ("Heartland"), the Midwestern leader in HVAC, plumbing, and electrical home services, is pleased to announce that it has acquired GreenBox Heating & Air ("GreenBox"), a leading provider of residential HVAC services in the Lexington,

Kentucky, area. The addition of GreenBox significantly strengthens Heartland's presence in the State of Kentucky.

GreenBox specializes in serving central Kentuckians with technicians who live in the area and love their community. This passion for serving extends to the area neighborhoods, whether in using local vendors or supporting local charities through their GreenBox Gives program. GreenBox will have access to Heartland's innovative technology suite under their 'Shared Strength Delivered Locally' strategy. This comprehensive set of innovative business management tools and resources is built around accelerating growth in months and years to come.

"We are excited to partner with Heartland and help expand its presence as a premier best practices and technology-enabled HVAC, plumbing, and electrical home services provider," said Gwen Riley, President of GreenBox. "With the resources of Heartland and our trade-focused principled core values, we will grow our presence as the employer of choice in Lexington."

"The GreenBox team and leadership give us a solid platform to expand in the central Kentucky market. We welcome them to the Heartland family of equally fantastic brands. We are huge fans of what Gwen has built and cannot wait to see what we will accomplish together," added Heartland CEO Bill Viveen.

GreenBox's leader, Gwen Riley, and her talented management team and highly skilled technicians will stay on, and the business will continue to operate as normal with additional resources from Heartland.

Terms of the transaction were not disclosed.

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Hiller Named No. 1 Top RUUD Partner

Nashville, Tenn. – Hiller Plumbing, Heating, Cooling & Electrical (Hiller), a provider of residential and commercial plumbing, HVAC, and electrical service and repair, was included among Ruud's "Top Market Maker" winners and was honored as the number one Top Ruud ProPartner for 2021. This award follows Hiller's six first-place recognitions among Ruud's list of Most Reliable Contractors.

The Ruud Market Makers award recognizes exceptional U.S.-based contracting businesses for sales, customer support, and overall service excellence. Through their strong vendor relationships with

Ferguson Enterprises (Nashville) and Coburn Supply (Memphis), Hiller was ranked among the Top 10 "Market Makers" for 2021.

Above this honor, Hiller was named Ruud's "Most Valuable Player," recognizing their "overall stellar performance" as the #1 Top Ruud ProPartner of 2021. The company was honored via email announcement in February, then via live announcement at the 2022 International ProPartner Conference at the MGM Grand Hotel in Las Vegas, Nevada, on March 7 and 8, 2022. CEO Jimmy Hiller and COO Jimmy Hiller, Jr. accepted the award in person at the event.

"We couldn't be more grateful to receive the MVP recognition from Ruud this year," remarked Jimmy Hiller, founder and CEO of Hiller. "In partnership with our wonderful distributors, we are able to provide Ruud's exceptional equipment to so many families across the southeast. Ruud's commitment to installation and maintenance excellence parallels our own high quality and service standards, so we are exceptionally thankful for this award."

Launched in 1990 with a single employee and just \$500, Hiller was founded on the tenets of professionalism, customer satisfaction, and a dedication to high quality work. As a result, Hiller has grown exponentially, operating across 15 locations in 7 states with a fleet of over 500 trucks.

Ruud, part of the Rheem family of brands, provides Ruud-branded heating, cooling, and water heating products for residential and light commercial use to professional installers across the United States and Canada. Named for water heating pioneer, Edwin Ruud, the brand was acquired by Rheem in 1960.

Industry Awards Presented at FRACCA Conference

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Orlando, Fla. – Each year at the FRACCA Educational Conference, the Florida Refrigeration & Air Conditioning Contractors Association (FRACCA) hosts an awards ceremony recognizing individuals and companies within the HVAC industry. This year's awards ceremony was held on Thursday, March 17, 2022, at the Florida Hotel and Conference Center, and the following awards were given

The 2022 Leadership Award

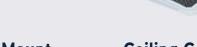
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Industry News

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was presented to Paul Stehle, a Manasota Air Conditioning Contractors Association (MACCA) Board Member, in recognition of his confidence, resilience, and grit which has helped to promote and elevate MACCA and FRACCA to the level they are today.

The 2022 Chapter Innovation Award was presented to MACCA for their vision and dedication to their recent grant submissions. It was the first time MACCA applied for and was awarded grants in the history of the program. By securing these grants, it will positively impact and help increase the pool of qualified and trained technicians within the HVAC industry.

The 2022 Outstanding Business Award was presented to Aqua

Plumbing & Air for their commitment to improving the lives of their customers while also supporting the community and giving back. They are an example of a business showing good corporate and social responsibility.

The 2022 Chapter Award was presented to MACCA for their overall excellence in a chapter and in recognition of their innovative approaches to membership, fiscal management, leadership, communications, and continuing education within the industry.

Munch's Supply **Buys T.A. Gentry**

New Lennox, Ill. - Munch's Supply, a Midwest-based heating, ventilation, and air conditioning

(HVAC) distributor, has acquired T.A. Gentry Supply Inc., including its three branches servicing Lansing, Kalamazoo, and Holland, Michigan. This will expand Munch's geographic footprint to 70 locations, serving 17 states and one Canadian province.

"The T.A. Gentry Supply Inc. acquisition is part of our long-term strategy to expand into the plumbing segment in the Michigan market. The company will continue to operate under the T.A. Gentry Supply Inc. name and its three locations will nicely complement our HVAC offerings in our eight Munch and Tommark locations," said Munch's CEO Bob Munch. "With the help of dedicated staff and a great culture, Patrick and his family have done a wonderful job growing the company. We are excited to build on the tremendous foundation that they have

established."

"We couldn't have made it 50 years without the tremendous support from our customers and team members. I am very happy to find a trusted company like Munch's to continue the T.A. Gentry Supply Inc. legacy," said T.A. Gentry Supply Inc. President Patrick Gentry. We are fortunate to have found a like-minded partner in Munch's Supply. We look forward to working with the Munch's Supply and Tommark teams to serve an even broader base in the home services marketplace in Michigan."

The acquisition demonstrates Munch's ongoing dedication to the HVAC and plumbing marketplace and reinforces its commitment to partnering with family and customer-service focused businesses looking for either a long-term partnership or an exit strategy.

Munch's Supply has been operating in the Chicagoland area for more than 65 years. Marcone, a distributor of home appliance, HVAC, and plumbing repair parts and equipment across North America, acquired Munch's Supply LLC in 2021 and strives to become the hub for parts and services to the home.

Panasonic Eco Systems Earns **ENERGY STAR** Partner of Year

Newark, N.J. - Panasonic announced Panasonic Eco Systems North America, a division of Panasonic North America has received the 2022 ENER-GY STAR Partner of the Year Sustained Excellence Award from the U.S. Environmental Protection Agency and the U.S. Department of Energy.

"Panasonic is once again delighted to receive this prestigious ENERGY STAR Award highlighting our dedication to energy-efficient indoor air quality solutions," said Naoki Kamo, President of Panasonic Eco Systems North America. "Cultivating environments where people can breathe healthy air is critical to the health of our population and being able to do so in an energy-efficient way is critical to the health of our planet."

"We know it's going to take all of us working together to tackle the climate crisis, and the 2022 ENERGY STAR awardwinning partners are demonstrating what it takes to build a more sustainable future," said EPA Administrator Michael S. Regan. "These companies are showing once again that taking action in support of a clean energy economy can be good not only for the environment, but also for business and customers."

Each year the ENERGY STAR program honors a group of businesses and organizations that have made outstanding contributions to protecting the environment through superior energy achievements. ENERGY STAR award winners lead their industries in the production, sale, and adoption of energyefficient products, homes, buildings, services and strategies. These efforts are essential



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

JUNE 2022 (cont.)

IHACI Webinar (Four-Night Class)
Instructor: Mitch Bailey Wed., June 22 - Part 1 Thurs., June 23 - Part 2 Wed., June 29 - Part 3 Thurs., June 30 - Part 4

JULY 2022

No classes

AUGUST 2022

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



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.

can register online by visiting: pge.com/hvactraining. Attendees must register for each night separately and registration is on a first-come, first-served "PG&E" refers to Pacific Gas and Electric Company, a subsidiary of PG&E Corporation. ©2022 Pacific Gas and Electric Company. All rights reserved.

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Industry News

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to fighting the climate crisis and protecting public health.

Winners are selected from a network of thousands of ENERGY STAR partners. For a complete list of 2022 winners and more information about ENERGY STAR's awards program, visit energystar. gov/awardwinners.

Newark, N.J.-based Panasonic Corporation of North America is a leading provider of Consumer Lifestyle technologies, as well as innovative Smart Mobility, Sustainable Energy, Immersive Experiences, and Integrated Supply Chain solutions. The company is the principal North American subsidiary of Osaka, Japan-based Panasonic Holdings Corporation. One of Interbrand's Top 100 Best Global Brands of 2021, Panasonic is a leading technology partner and integrator to businesses, government agencies and consumers across the region. Learn more about Panasonic's ideas and innovations at na.panasonic.com/us.

ENERGY STAR® is the government-backed symbol for energy efficiency, providing simple, credible, and unbiased information that consumers and businesses rely on to make well-informed decisions. Thousands of industrial, commercial, utility, state, and local organizations – including more than 40 percent of the Fortune 500° - rely on their partnership with the U.S. Environmental Protection Agency (EPA) to deliver cost-saving energy efficiency solutions. Since 1992, ENERGY STAR and its partners helped American families and

businesses avoid more than \$500 billion in energy costs and achieve more than 4 billion metric tons of greenhouse gas reductions. More background information about ENERGY STAR's impacts can be found at www.energystar.gov/impacts and state-level information can be found at www.energystar.gov/statefacts.

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Milwaukee Tool Opens New Tech Office in Chicago

Chicago, Ill. – Milwaukee Tool announced the opening of a new facility in Chicago. Located in the heart of the Windy City, the location will serve as an engineering design and innovation space to accommodate the company's continued investments



INSIDE MILWAUKEE TOOL'S NEW FACILITY IN CHICAGO.

into new technology.

Over the last decade, the company has experienced growth globally and currently employs more than 10,000 people in the United States. Chicago's ecosystem of technical talent is one of many reasons Milwaukee chose to expand to the

city. The company continues to actively invest in emerging technologies around motors, power electronics, lithium-ion batteries, wireless connectivity and IoT, embedded systems, and artificial intelligence.

Milwaukee Tool is a global company with manufacturing, distribution, and operations presences across North America, South America, Europe, Asia, and Australia. The company has designed, engineered, and man-

ufactured products in the United States for nearly 100 years.

"We're proud to be part of the fast-growing tech scene in Chicago," said Steve Richman, group president of Milwaukee Tool. "Our people are our most valued asset and together, we've built a culture that's unparalleled in the industry.

As we push the limits of new technology to deliver the best solutions for our users, we look forward to continuing to recruit, attract, and retain the very best people."

Milwaukee invested more than \$14 million to renovate 70,000-square-feet of space within the historic old post office in Chicago. Approximately 10,000 square feet is dedicated to lab space for design and development of critical new technologies. This space will be home to multiple disciplines within their

mechanical engineers; PCB designers; and project leaders. This location will also act as an extension of the company's global headquarters in Brook-

field, Wisconsin.

power electronics; systems and

engineering team, including: embedded systems; firmware;

In the last year, Milwaukee has invested \$216 million in domestic expansion projects, including Chicago. Their other domestic presences include several cities in Mississippi and Wisconsin, as well as Cookeville, Tennessee and Greenwood, Indiana.

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Industry News

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Wallace State Community College Granted HVAC Excellence Accreditation

Mount Prospect, Ill. - HVAC Excellence announced that the HVACR training program at Wallace State Community College in Hanceville, Alabama has been granted accreditation.

George C. Wallace State Technical Trade School was established in 1949, later renamed Wallace State Community College. To validate that their HVACR educational program continues to meet industry standards, Wallace State voluntarily chose to undergo accreditation of their program.

Programmatic accreditation is an

independent, third-party review of an educational program, comparing it to established, industryaccepted 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.

NADCA, Global **Biorisk Advisory Council Publish Scientific Paper**

Mt. Laurel, N.J. - NADCA, the HVAC Inspection, Cleaning, and Restoration Association, announced the publication of "Biological Air Quality Considerations for Non-Healthcare, as Built Environments," a scientific paper developed in partnership with the Global Biorisk Advisory Council (GBAC).

The paper, funded by the GBAC, addresses several strategies for improving indoor air quality in facilities and built environments such as schools, restaurants, convention centers, and gyms.

Air quality has become a major focus of cleaning considerations since the introduction of the SARS-CoV-2 virus pandemic. This paper is designed to provide the measures a facility should take into consideration to control the spread of infectious agents within their facilities, with a particular concern for those spread through airborne routes. Viruses or other infectious agents that are transmitted through tiny droplets and aerosols are considered to be airborne diseases. SARS-CoV-2, influenza,

chicken pox, and measles are all examples of airborne diseases.

NADCA President & Chairman of the Board, Mark Zarzeczny, ASCS, CVI, and NADCA's scientific advisory board chair; Dr. Mark Hernandez, PhD, PE., along with a team of scientific and industry peers; contributed to the multi-authored paper.

"I am so grateful for the opportunity to work with the GBAC's scientific advisory board to develop their first published, peer-reviewed scientific paper," said Mark Zarzeczny, ASCS, CVI, and NADCA's President and Chairman of the Board. "The paper addresses airborne diseases, including the SARS-CoV-2 virus, and provides a multitude of science-backed options for improving indoor air quality in non-healthcare settings."

The paper has been published in the GBAC-TIPS Journal, an open access journal founded by The Infection Prevention Strategy (TIPS) to advance innovations, ideas, and processes that make a difference in global health. The journal aims to provide access to evidence-based science through both peer-reviewed and perspective articles. The paper will also be indexed into Google Scholar and Research-Gate for the global scientific community to reference and cite in future publications.

'It was a privilege for our scientific advisory board to work with NADCA on this multiauthored paper which provides actionable steps to make facilities safer during and beyond the pandemic," said GBAC Executive Director Patricia Olinger. "Achieving peer review and publication means that our paper has met standards for quality and importance to global health."

This comes just before the announcement of NADCA's own scientific advisory board, which was shared during the recent Annual Meeting & Exposition in Aurora, Colorado. Led by Dr. Mark Hernandez, the advisory board will work alongside NADCA's scientific committee and Board of Directors to utilize research, science, and advocacy to advance the field.

The "Biological Air Quality Considerations for Non-Healthcare, As Built Environments" peer-reviewed paper is available for download at https://infectioncontrol.tips/2022/02/10/ biological-air-quality-considerations.

Snyder Air Launches TradeUp Academy

Jacksonville, Fla. – Snyder Air Conditioning, Plumbing & Electric announced the launch of its new TradeUp Academy, an HVAC Registered Apprenticeship Program. The goal of the program is to help businesses meet the demand for skilled labor during a shortage, while offering workers higher wages and better employment outcomes.

TradeUp Academy is a paid training/apprentice program that offers participants the opportunity to gain experience, learn new skills, and support themselves financially while they study and receive on-the-job training. For the trainee, an apprenticeship can offer a cost-effective alternative to the college track. According to the U.S. Department of Labor, workers who complete an apprenticeship make an average of \$240,037 more than comparable job seekers in their lifetime. And for the employer, apprenticeship programs are a reliable workforce solution.

'We are excited to launch TradeUp Academy and be a part of the solution to turn around skilled workforce shortages while providing workers with a quality job and competitive living wage," said Brad Kelly, Snyder Air Conditioning, Plumbing & Electric

Apprentices in the TradeUp Academy are considered full-time employees of Snyder earning a competitive wage while receiving a minimum of 2,000 hours of firsthand technical training. Snyder is the only company in the Jacksonville market with a 12-month program, making it unique to similar apprenticeships because the trainee moves through the program more quickly. Participants are also eligible for benefits after an introductory period.

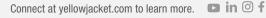
TradeUp Academy is geared toward an entry level contractor — no experience required. Participants who do have some industry experience or training are also encouraged to enroll. Trainees follow a path towards certification that starts with online classes for technical studies and in-class lectures from industry experts, then move on to ride-alongs for field observations. Lastly, participants go out into the field in their own truck with support — a system in which the trainee can call in for assistance or request an experienced technician come to their job site for assistance.

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Energy Commission Examines Heat Pump Goals, Supply Chain Issues

Continued from Page 1

accelerate the market to meet this goal and to push beyond it toward comprehensive migration to heat pumps for space and water heating."

Representatives from equipment manufacturers, distributors, HVAC trade associations, utilities and incentive programs participated in the April 5th CEC workshop.

Equipment Manufacturers and Industry Remarks

A panel of HP manufacturers and industry trade representatives provided comments in support of the CEC's goal but also discussed current and potential future challenges in the areas of manufacturing capacity, sales and installation, labor and training, consumer education, equipment costs, supply chain issues for manufacturing materials and transportation, and regulations across multiple state and local jurisdictions.

Jason Thomas, director of regulatory affairs with Carrier said the CEC's California goals are aligned with Carrier's goals to reduce its customers' carbon footprint, and stated, "We think this is an achievable goal if we're all rowing in the same direction." He

observed, "Manufacturers respond to demand." Although HP demand and installation are increasing, particularly in new construction in California, he said there is still "market friction" related to replacement system costs, and homeowner costs to convert from gas heating systems to all-electric. He advised, "We need to focus on solving installation and service problems to make it easier for contractors," who he said, "play an important role at the point of sale." Contractors often have difficulty convincing homeowners, and don't want to risk losing customers by making a fuel switch that may cause customer dissatisfaction. Based on statistics for replacement HVAC systems in existing homes, Thomas said 50 percent of customers want the least expensive option, and 30 percent will buy the best option with price not being a concern. He cited the labor availability problem, with a projected nationwide gap of 400,000 technicians over the next decade from people leaving the industry and inadequate replacements.

Thomas summarized, "We can achieve this goal, our ask is a smooth, predictable demand curve, and as much as possible, align regulatory objectives and compliance dates." Thomas also suggested considering dual-fuel systems as an interim step to move forward.

Jonathan Moscatello of Daikin Comfort Technologies, manufacturers of HP brands Daikin, Amana and Goodman that represent a majority of the HPs sold annually in the U.S., said California today is not yet a HP market. "HVAC contractors and distributors respond to what a customer asks for," he said. A barrier at the distribution and retail levels is the inadequate workforce for contractors and distributors to meet demands. Daikin has training resources available for its products, including new virtual reality training for HP installation and service, but needs help attracting people to participate. Moscatello believes the industry needs more specificity on the types of HPs needed for specific applications and an application guide for contractors would be helpful. He suggested companies participate in a "HVAC Industry Leadership Council" of contractors and distributors, and that the CEC create a HP technology adoption road map.

Karen Meyers, VP of government affairs for Rheem, manufacturer of air and water HPs said, "Rheem is aligned with the CEC's goal of installing 6 million HPs by 2030." But she advised the need to focus on three areas: policy, program design, and funding. A long-term consistent policy, including reduc-

membership," said Mick Schwedler,

ing potential conflicts with local ordinances and requirements, is needed to assure and encourage manufacturers to commit to the substantial increase in manufacturing capacity needed to achieve this goal. Consumerfriendly marketing and sales programs to help consumers choose HPs should be a focus, along with incentives to eliminate the price differential between current technologies and new HPs. Meyers summarized, "Consistency is the key to provide manufacturers a long-term runway to ramp-up and stay on track to meet this goal."

Alex Ayers of Heating Air-Conditioning & Refrigeration Distributors International (HARDI) said residential HP sales have grown nationally at a rate of about 7 percent annually since 2013, with more than 3 million units shipped in 2021. California's residential HP growth rate is less than the nationwide growth rate. California HP sales have surpassed furnace sales since 2020, and 160,000 HPs were sold in 2021. HPs are used more in new multi-family housing (66% HPs to 33% gas) where economy of scale makes it easier for HPs to compete, as compared with single-family

homes where furnaces are still installed in higher numbers (55% gas to 45% HPs). About 80 percent of the HVAC residential market comes from add-on/replacement units. Ayers said, "The replacement market is cost driven, and financing will be more critical than ever before to drive HP sales."

Helen Walter-Terrinoni of the Air-Conditioning, Heating & Refrigeration Institute (AHRI) cited the need for a "harmonization of policies" among state and local agencies that includes the timely adoption of low GWP refrigerants in the state building code and mechanical code (a regulatory issue before the California Air Resources Board.) This is needed to make sure adequate supplies of refrigerants are available for new HP equipment and provide a reliable path for manufacturers to increase production capacity. Incentive programs focused on the end user can be successful to get consumers to buy and adopt new HP technologies. She said: "We want to be sure we have a level of readiness for this transition (coordinated policies, product reliability, production capacity, training of contractors/ technicians, etc.). It's important we keep this dialogue going among all parties and it's critical we all get on the same page."

Women in HVAC

Continued from Page 1

excellent initiatives and structures established by different partners that are promoting women's engagement in the RACHP field. However, more cooperation and information exchange at the global level is needed to link these individual efforts and make them even more meaningful and impactful, especially in developing countries.

"ASHRAE is committed to providing a welcoming environment to all people and celebrates its diverse culture through an active global

P.E., Fellow ASHRAE, LEED AP, 2021-22 ASHRAE president. "The INWIC initiative aligns with our Society's deeply valued diversity, equity, and inclusion principles, and we enthusiastically support efforts to expand the landscape for women to participate fully in the research and development of emerging cooling technologies."

INWIC will connect women in

the predominantly male cooling sector, empowering success through networking, mentoring, education, and opportunities to shine as visible role models, fostering a lasting legacy to inspire the next generation of women innovators and problem solvers. It will also offer an avenue to individual women, especially from developing countries, to gain career experience and development that may otherwise prove inacces-

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"There are not enough visible 'women in cooling' role models. We want to change that," said Stephen Gill, head of the WRD Secretariat. "We will create a resource for girls and young women to see videos and read real-life stories from a diverse range of women in different roles within the cooling sector. This will also serve to connect and inspire women currently working in the cooling sector."

The INWIC initiative contributes to the achievement of the Sustainable Development Goals, the UN's blueprint for addressing global challenges to achieve a better and more sustainable future. Goals of the initiative include:

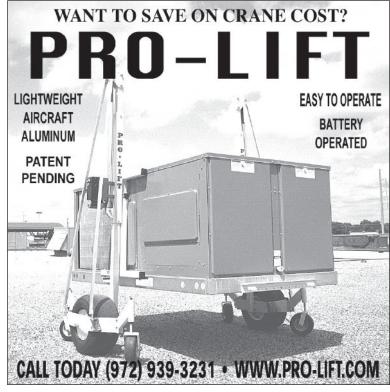
- Gender equality for women, including equality of opportunity;
- Improved livelihoods through job creation and employment;
- Making cities and people's lives more sustainable; and
- Climate adaptation and mitigation.

An important role of the INWIC initiative is to serve as a

platform to promote environmental stewardship within the cooling sector. This includes, among other issues, proper and safe management of refrigerants like HFCs, HCFCs, hydrocarbons, and new alternatives.

The cooling sector is critical for achieving environmental objectives, including the continued success of the Montreal Protocol and for addressing climate change. If they are to meet their compliance obligations, countries need a strong, vibrant, and inclusive cooling sector," said James Curlin, head of UNEP OzonAction. "Women represent a tremendous, largely untapped source of innovation and skills for this sector, and they need to be actively engaged if we are to solve the great environmental challenges of our time. INWIC seeks to do just that."

In the next few months, INWIC founding partners will introduce several programs that directly support individual women and young girls to further engage and find opportunities that can support the advancement of their careers, the attraction to cooling education disciplines, and active engagement with the cooling community.



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Johnson Controls Survey Announces Findings of Annual Energy Efficiency Indicator Survey

Continued from Page 1

eas. Almost two-thirds of survey respondents say they struggle to scale sustainability initiatives across buildings, geographies, or business units.

"In the face of the multiple and continuous shock waves of the last two years, it is very encouraging to see that building owners and operators are driving forward the kinds of investments that deliver the resilience needed to grow their business and attract and retain the best talent," said Katie McGinty, vice president and chief sustainability and external relations officer at Johnson Controls. "Whether it is the damage delivered by climatecharged destructive natural events, or the health threat of the pandemic, or now, the stark demonstration of the insecurity of world energy supplies, it is clear that taking action to cut energy demand while decarbonizing and cleaning the air are core strategies for companies, governments, and institutions to not only survive but to thrive. Our innovative technologies in heat pumps and our OpenBlue digital platform, plus our Net Zero as a Service partnership offering, are exactly the right tools at the right time for leaders determined to stay well ahead of challenges and deliver new opportunities for their business or organization."

Global Progress has Accelerated in the Last Five Years

The survey revealed that planned investment in energy generation or storage has grown significantly over five years, likely in response to the global focus on decarbonization, and as part of that effort, electrification. More than a third of respondents plan to replace fossil fuel heating equipment with heat pump technology in the next year, which is 7% more than what was implemented in the year prior. Notably, thermal energy storage jumped from 27% to 42% in the last five years. More than half of respondents implemented electric energy storage in the past year.

The survey also found that the United States and Europe still lead the way in every metric of green building planning. The U.S. had the most respondents who had already achieved green building certification and expect to have a net zero energy or carbon building in the next ten years. Europe had the most respondents planning to attain green building certifications and the most respondents who have established public energy/carbon reduction goals, with U.K. leading with 46% established goals.

Compared to its global counterparts, significantly more respondents in the U.S. plan to implement measures such as building controls improvements, onsite renewable energy, and energy management process such as ISO 50001. Of the countries surveyed, the U.K., France, and Japan have the most respondents who expect to increase investment in energy efficiency, renewable energy, or smart building technology over the next year. Still,

to reach global sustainability and environmental goals, the world must work collectively to plan for a more energy efficient future and make investments today for the generations to come.

Barriers to Scaling Sustainability Efforts

Although global scale transformation is necessary to course-correct on climate change, organizations are facing barriers to pursuing sustainability initiatives. Almost half of the respondents surveyed say their top barrier to pursue energy and building technology improvements is either a lack of funding to pay for improvements (25%) or uncertainty in their return-on-investment (23%).

Additionally, more than half of respondents pointed to a lack of technology as one of the hindrances to scaling sustainability efforts.

Globally, these top barriers have remained largely the same as they were five years ago, underscoring the opportunity to catalyze accelerated action through innovative solutions like Johnson Controls' Net Zero as a Service that enables decarbonization with no upfront capital and with reduced operating expenses as well.

Organizations Focused on Harnessing Technology to Keep Building Occupants Healthy and Safe

The pandemic has also prompted organizations to rethink their

technology investment decision-making. Protecting the health and safety of building occupants during the coronavirus pandemic was the second most significant driver of investments globally. Additionally, 65% of respondents performed an indoor air quality assessment last year.

Respondents also said improving occupant health and wellness overall and improving life safety and security were important decision-making factors. Over the next 12 months, almost 60% of organizations plan to invest in fire/life safety system and security system improvements to their buildings. Long term, more than two thirds

Continued on Page 27

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- 🕆 Single component refrigerant, with zero glide and easier maintenance

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Introducing the New SMART MULTI™ Product Line

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.



Compatible with:

- M- and P-Series indoor units
- Requires branch box PAC-MKA[3/5]2BC

Efficiency improvements:

- SEER up to 23.0
- HSPF up to 12.5
- IEER up to 24
- COP:

at 47F: up to 4.19 at 17F: up to 2.64

• SHF: <0.79

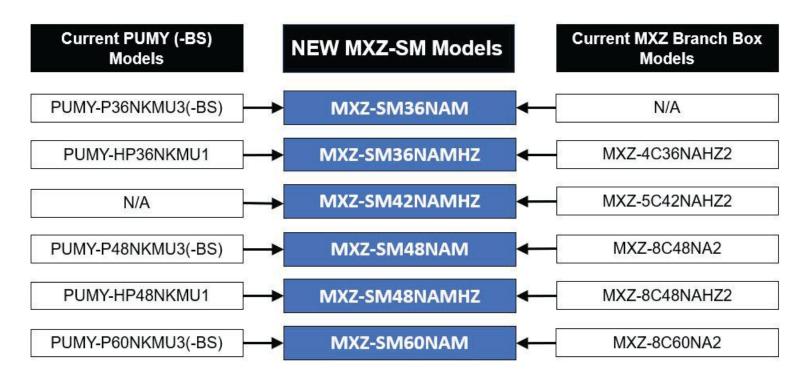
Operating Ranges:

• Cooling: 23 to 115 °F DB

Heating -13 to 70 °F DB

Outdoor unit enhancements:

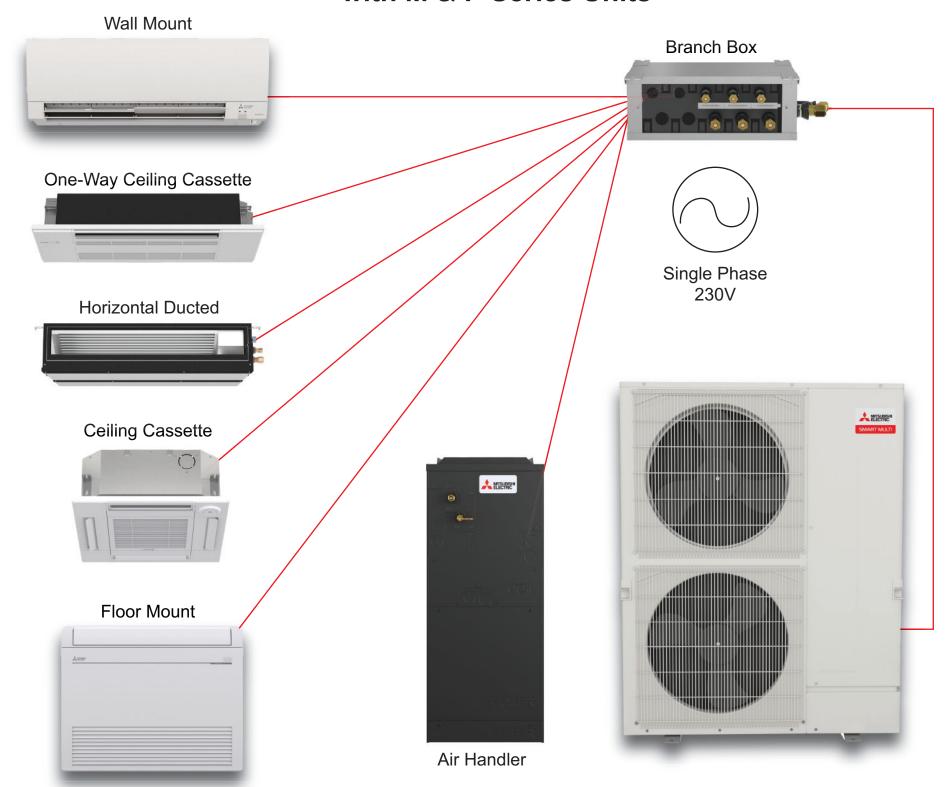
- Seacoast protection standard on heat exchanger (Blue Fin) and base panel
- Rated for 2,000 hours in accordance with ASTM B117





SMART MULTI™

with M & P Series Units



MXZ/PUMY	20	24	30	36	42	48	60
MXZ-SM	-	-	-	√	-	✓	✓
MXZ-SM-h2i	-	-	-	√	✓	√	-
MXZ Ported-type	✓	✓	√	√	✓	-	-
MXZ-h2i Ported-type	√	√	√	-	-	-	-



Scan this QR Code for more detailed product information on LinkDrive

Residential Cooling

Allied Air Enterprises LYNX 18 SEER



Allied Air Enterprises has expanded its line of home heating and cooling solutions with the new LYNX 18 SEER Inverter Heat Pump under the Ducane, Concord, and Allied brands.

The LYNX 18 is quickly adaptable with AHRI-rated systems, offering compatibility with a wide range of already existing indoor equipment. The LYNX 18 works with any conventional 24 V thermostat.

The LYNX 18's five operating modes can increase energy savings by up to 22% annually.

Other benefits include the Quiet Shift technology and sound-isolating compressor mounts that produce noise levels as low as 60 dBA; the Omniguard® Total Corrosion Protection Technology and a factory-installed Suction Line Filter Drier that help extend the unit's life; the Clean Sweep Defrost technology that helps to reduce the number of defrost cycles needed; and a simplified piping system to eliminate installation and operational complexities as well as the causes of potential leaks.

More information: www.alliedair.com.

Broan Nu-Tone AE50110DCL



Broan Nu-Tone created the Flex DC fan. The Broan AE50110DCL Flex DC Series Exhaust Bath Fan with LED, Energy Star offers easy room-side installation with no attic access required. Ceiling-mounted ventilation fan features foldable mounting ears and EZ Duct connector for easy installation. New duct damper technology provides a tighter seal, resulting in reduced warm and cold air backdrafts. This fan operates at a selectable cfm range of 50-80-110 at a quiet operation of <0.3-0.4-0.9 sones.

More information: www.broannutone.com.

Coleman Echelon Series AC19

The **Coleman** brand of Johnson Controls now offers a new two-stage, ENERGY STAR®-certified Echelon™ Series air conditioning unit, which can save up to 47 percent on energy use compared to older 10 SEER units. Available in 2-5 tons, this new system meets rigorous energy efficiency performance levels set by the U.S. Environmental Protection Agency.

The AC19 air conditioner, which can be sold as part of a complete Echelon residential system or as a premium upgrade to an existing system, provides contractors and homeowners flexible options by matching it with either a variable-speed air handler or a standard ECM air handler. Matched equipment includes furnaces, coils and air handlers, all of which are optimized to work together, maximizing comfort and overall performance.

Units can be installed with a conventional two-stage thermostat or the communicating Wi-Fi°-enabled Echelon™ Hx™ Touchscreen Thermostat, which allows remote monitoring and diagnostics using the Hx™ Pro App. The system also has the ability to communicate with competitive controls for additional installation flexibility. Other features include:

- A smaller footprint that allows the unit to fit into compact spaces without sacrificing performance.
- A swing-open electrical box that provides full corner access to the inside of the unit for easy maintenance, installation and service.
- An advanced WhisperDrive™ Sound Reduction system which includes swept-wing fan, high-efficiency ECM fan motor, sound enclosure and composite base for quiet, efficient air circulation.

Coleman Echelon Series
AC19 units include a 90-day
Labor Limited Warranty, Lifetime
Compressor Limited Warranty and
10-year Parts Limited Warranty on
registered outdoor units.

More information: www.colemanac.com/echelon/.



Daikin ATMOSPHERA



For the first time in North America, **Daikin** is launching a home comfort product featuring R-32, a refrigerant with one-third the Global Warming Potential (GWP) of the most common refrigerants currently being used in the United States and Canada.

The new Daikin ATMO-SPHERA system featuring R-32 refrigerant from Daikin North America LLC is a single zone, ductless system that gains impressive efficiencies over its R410A predecessor line, the LV Series, with up to 27.4 SEER, 13.8 HSPF and 16.3 EER ratings for ultraefficient cooling and heating. Four sizes of indoor and outdoor heat pumps are available, from 9,000 to 24,000 BTU.

"Daikin has sold over 33 million R-32 systems in more than 100 countries and regions," said Takayuki (Taka) Inoue, Executive Vice President and Chief Sales and Marketing Officer. "We are excited to be the first to bring this proven technology to North America. With an estimated 160 million R-32 systems sold by Daikin combined with other manufacturers worldwide, we are confident R-32 has the all-around performance benefits to make it the ideal replacement for R-410A."

"Daikin ATMOSPHERA brings North America a powerful, new single zone system that has a lower GWP, is more efficient and may help lower end-user electric bills compared to R-410A models," explains Connie Schroder, Sr. Product Manager – Single and Multi-Zone Systems for Daikin. "We've also built advanced features into Daikin ATMOSPHERA heat pumps that improve comfort, cleanliness, and usability while simplifying maintenance."

Daikin ATMOSPHERA's heat pump performance over its R-410A predecessor is substantial, offering greatly enhanced heating and cooling capacities. The units feature up to 100 percent rated heating capacity at 5°F WB (-15° C WB) and confirmed continuous operation as low as -13°F WB (-25°C WB). Rated cooling capacity is up to 100 percent at 115°F DB (46°C DB).

New hybrid cooling technology efficiently controls humidity, even in low-cooling loads, and maintains dehumidification effect after the target temperature is reached. Daikin ATMOSPHERA's novel "CLEAN" operation dries the interior of the indoor unit to reduce the amount of condensation present, while a detachable drain pan allows for easy cleaning.

With the indoor unit's built-in Wi-Fi, the system can be controlled via the internet with the Daikin Comfort Control App without the need for an additional adaptor. Daikin ATMOSPHERA's Intelligent Eye employs an infrared sensor to detect movement in the room. If the room is empty for 20 minutes, the set point is changed to start saving energy. Installation is now more flexible with 50 percent longer piping lengths up to 49 feet, compared to other Daikin single zone systems.

Indoor units include a wireless infrared controller and are compatible with the full suite of optional s21-based single and multi-zone controls solutions, including the Daikin One+ smart thermostat.

Daikin ATMOSPHERA is currently available in Washington, Oregon, and Florida.

Daikin ATMOSPHERA single zone systems are backed by a 12-year parts limited warranty. Complete warranty details available from your local dealer/contractor or at www.daikincomfort.com. To receive the 12-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec.

More information: www. DaikinAtmosphera.com and www. R32Reasons.com.

Fujitsu Airstage VRF



Fujitsu General America, Inc. is introducing a new Airstage VRF multi-position air handling unit (ARUX), featuring seven models ranging from 1 to 5 Ton. It is designed to meet space, comfort, sound, and efficiency requirements in residential, multi-family, lodging, and other light commercial applications while offering all the

advantages of the VRF system technology.

The new unit is capable of providing up to 0.8 in. WG static pressure and at only 43 inches tall and 17.5 inches wide for a 2 Ton model, it can be installed in tight spaces.

The flexible unit can be mounted in up-flow positions for narrow closets and basements, while horizontal left, and horizontal right positions fit attic spaces. A wide range of optional electric back-up heaters is available for maximum comfort and performance even in colder climates.

The ARUX unit is compatible with a variety of controller options, such as individual, central, and building management controllers. Many optional control accessories are available, including web monitoring tools, remote sensors, MODBUS, LONWORKS and BACnet converters, and thermostat converters.

More information: www.Fu-jitsuGeneral.com.

Hitachi Mini-Split



Hitachi's new line of mini-split systems employs the latest technologies to maximize comfort and ensure healthy indoor air.

- An intelligent human sensor system monitors and responds to the environment to provide continuous comfort.
- Temperature and humidity levels are controlled when set to dehumidification mode.
- Innovative FrostWash technology ensures indoor air is fresh and clean by eliminating dust, bacteria, and mold.
- User-friendly airCloud Home app puts control in the palm of the homeowner's hand and is fully compatible with Amazon Alexa and Google Assistant, enabling voice control when hands are full.

Vector DC Inverter Technology Hitachi mini splits feature vector DC inverters to achieve high performance energy efficiency. These inverters cool with maximum capacity at start-up, then automatically slow down and operate at minimum capacity to maintain room temperature at a comfortable level. This reduces energy consumption by up to 62%* compared to non-inverter levels.

Editorial Focus

A special microchip that is pre-loaded with the compressor's data will constantly monitor its operation while running. This helps the unit to adjust the amount of energy needed by sending accurate instructions to the compressor to achieve the optimal rotation speed and avoid unnecessary power waste.

Hitachi mini splits are flexible, easy to install, and offer a wide range of sizes to make it easy to specify the perfect solution for your project. A cooling-only lock function prohibits heat when used in ambient cooling applications. Single-zone systems are available in 115V or 208/230V with capacities ranging from .75 to 3 tons. Multi-zone systems can accommodate up to 5 zones with 208/230V and capacities ranging from 1.5 to 3.5 tons.

More information: www. us.hitachiaircon.com.

Midea EVOX



Full Set of EVOX

Midea has launched the new Midea EVOX central inverter heat pump system because HVAC service providers need flexible and advanced product solutions that can address their need to supply an upgraded experience in homes and meet the evolving SEER standards – all without adding excessive cost burden to consumers.

"The Midea EVOX System is one of the most compatible inverter technology products in the industry today and despite having some of the highest energy ratings, is very competitively priced - making it easier for suppliers and contractors to stock, sell and install a superior HVAC option," said David Rames, Senior Product Manager, Midea America. The system's market potential has been proved "our EVOX Central Inverter Heat Pump system was introduced first-hand to many builders and contractors at events like the

Residential Cooling

International Builders Show (IBS) and the Air Conditioning Contractors of America (ACCA) convention. When contractors saw what the products had to offer, they were eager to learn more and 98 percent of visitors to our booth said they liked the product and 100 percent expressed interest in future product trial opportunities."

While most inverter AC products on the market in the U.S. focus on only the highest SEER ratings and highest price point, Midea EVOX provides contractors and suppliers with an inverter product lineup that ranges from 18-20 SEER with more affordable pricing that makes it much more attractive for a much

larger number of homeowners. Few residential market high performance heat pump products today can match the expansive system capacity, superior heating performance and high energy efficiency of EVOX cold climate heat pumps, and certainly not at the more affordable price point.

Available in a wide capacity range from 1.5 - 5 tons, all EVOX cold climate heat pumps are capable of 100 percent heating output at -4 degree Fahrenheit. This guarantees the EVOX heat pump can fit almost any housing size and can operate optimally in virtually every climate condition in North America.

More information: www.midea.

Samsung WindFree



Samsung's exclusive Wind-Free™* Cooling technology provides end-users with a cool indoor climate and optimal energy efficiency without the discomfort of direct cold airflow. Samsung has expanded its offering of WindFree™ residential systems by introducing the WindFree™ 2.0e, which includes smart operation and voice control.

WindFree™ 2.0e models are Wi-Fi enabled allowing voice control with Bixby 2.0 and monitoring from anywhere with an internet connection through Samsung's SmartThings app. Users can remotely regulate temperature, adjust settings, automate unit functions, receive real time updates about operation and daily energy usage, as well as troubleshoot solutions when a repair is needed.

In addition, the WindFree™ 2.0e indoor unit model numbers are compatible with Samsung's residential single zone and Free Joint Multi (FJM) multi-zone systems

Continued on Page 24

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Editorial Focus

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to simplify the overall number of SKUs for distributors and dealers to manage.

More information: www.samsunghvac.com.

Mitsubishi Electric Trane HVAC US PKA

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PKA Wall-mounted Indoor Units from **Mitsubishi Electric Trane HVAC US** provide consistent, reliable zoned comfort for a variety of spaces.

Two new PKA models, 12 KBTU/H and 18 KBTU/H, are now available. Engineered to provide peace of mind to the building owner and its occupants, the new models operate at nearly whisperquiet sound levels as low as 34 dB(A). They offer a sleek, compact design with simple installation ideal for light commercial spaces.

Additionally, the new PKA 12 and 18 KBTU/H models are available in selectable high sensible or high latent modes. High latent mode offers enhanced moisture removal in the conditioned space. High sensible mode suits spaces where enhanced moisture removal is unnecessary and the unit runs constantly.

More information: www.mit-subishicomfort.com.

Westinghouse Heat Pumps



Westinghouse has recently expanded its feature-rich, competitively-priced line of mini-split heat pump systems for the U.S. and Canadian markets. This addition includes a broad range of indoor and outdoor units for use in a wide variety of applications.

New for 2022, Westinghouse now offers single-zone outdoor units ranging in capacity from 9,000 to 36,000 BTUh, and multi-zone outdoor units between 18,000 and 42,000 BTUh.

Single-zone outdoor units are compatible with the new line of Westinghouse indoor units, which includes ceiling cassettes, horizontal ducted, multi-position air handlers, and wall-mount units of various capacity.

Multi-zone outdoor units are compatible with wall-mount units, ceiling cassettes and horizontal ducted.

All Westinghouse products offer a variety of features typical of highend models, along with industryleading contractor support. Many Westinghouse products are Energy Star® certified and feature efficiencies up to 28 SEER.

More information: www. WestinghouseAC-USA.com.

Napoleon NS18 Heat Pump

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The **Napoleon** NS18 heat pump has new, more efficient technology that features a variable-inverter compressor and vapor injection technology to heat a home in temperatures as low as -30°C (-22°F) and cool it on sweltering days as hot as 54°C (129°F). It also operates on electricity, helping homeowners reduce their carbon footprint and reduce energy costs without sacrificing comfort.

More information: www.napoleon.com.



YORK HMH7

Johnson Controls, the global leader for smart, healthy and sustainable buildings, has, through its **YORK**® brand, released a new residential heat pump that provides the ideal solution for spaces that require a compact design, without sacrificing comfort or efficiency. The YORK® HMH7 horizontal

discharge heat pump is designed to provide the comfort and technology of a mid-tier efficiency unit at the cost of a base-tier vertical unit, with flexible installation options and innovative features.

Unlike traditional vertical discharge units, the HMH7 heat pump has a 40% smaller footprint, making it a great system for homes in temperate, high-density regions that require a compact design, such as properties with zero lot lines. They can be placed anywhere a vertical unit can, and often in places vertical units cannot fit, thanks to greater clearance and setback flexibility. All HMH7 heat pumps follow standard installation procedures with conventional equipment and devices, using simple kits with relay, wiring and bi-flow filters/dryers. The systems are designed to work with YORK® variable speed or standard ECM indoor air handling equipment, providing many system installation options. In addition, no unique installation procedures are required.

YORK® HMH7 heat pumps, which are part of Johnson Controls OpenBlue connected suite of technologies, reach up to 18 SEER and up to 10.5 HSPF, which can result in lower utility bills compared to older units, saving homeowners money. Inverter system and modulating technology smoothly ramp up operation and continuously adjust, avoiding spikes in energy use while helping to increase overall system longevity

and reducing energy usage.

"Unlike the standard vertical heat pumps, which discharge air out the top of the unit, these compact systems discharge air and sound horizontally away from the home, offering a litany of benefits to both the contractors and homeowners," said Bryan Rocky, director of residential technical services, Ducted Systems, Johnson Controls. "Horizontal discharge systems offer the consumer and homeowner enhanced value and performance in certain applications and installations where space is a premium, yet can be applied in any standard installations as well."

Another key advantage to the horizontal discharge system is an innovative fan design that creates less vibration and provides quieter operation. Sound output is as low as a typical dishwasher at 54 dBA, which is 36% lower sound levels than standard heat pump units.

YORK® HMH7 heat pumps are available in 2, 3, 4 and 5 ton options to ensure a precise, effective solution for your customers' needs.

More information: www.york.



Case Study

Trane Helps Luxury Retailer Bergdorf Goodman with Decarbonization Plan

Trane Technologies, through its strategic brand Trane, and luxury retailer Neiman Marcus Group are collaborating to decarbonize the luxury retailer's footprint through renewable energy, electrification, energy efficiency, and refrigerant management. Leveraging recommendations from Trane's customized energy decarbonization roadmap, Neiman Marcus Group is implementing significant change through major climate commitments and upgrades at stores across the country.

Neiman Marcus Group has worked with Trane for years to help create energy-efficient, healthy, and comfortable spaces across its stores. Now, the companies are expanding their collaboration to achieve emissions reductions in line with Neiman Marcus Group's sustainability goals, beginning with a quantita-

tive portfolio-wide analysis to strategically identify the facilities and initiatives that will deliver the most impactful outcomes for Neiman Marcus Group, shoppers, and shareholders.

The companies recently marked a major milestone in Neiman Marcus Group's decarbonization plans with an innovative installation at the retailer's flagship Bergdorf Goodman Women's Store in New York City. The 94-year-old historic landmark received an environmentally friendly makeover, replacing its outdated HVAC equipment with two highly efficient chillers from Trane, using next-generation, low-GWP refrigerant and enabling the site's elimination of natural gas use. The move will contribute to New York City's goal of reaching net-zero greenhouse gas emissions by 2050, while keeping shoppers

cool and comfortable.

"This electrification project has enabled us to improve the energy efficiency of this landmark building and transition it to renewable energy so that we can do our part to move New York City and the fashion industry toward a netzero future by 2050," said Chris Demuth, senior vice president of people services, ESG.

"Helping businesses achieve their sustainability and operational goals is what we do best," said Donny Simmons, president of commercial HVAC Americas at Trane Technologies. "We're proud to play an important role in Neiman Marcus Group's journey to reduce greenhouse gas emissions and transition to 100% renewable energy by 2030. This is decarbonization in action, and we applaud Neiman Marcus and Bergdorf



EXTERIOR SHOT OF LUXURY RETAILER BERGDORF GOODMAN IN NEW YORK.

Goodman for taking bold steps to ensure a more sustainable world."

Through its comprehensive decarbonization program, Trane is also completing decarbonization assessments at select Neiman Marcus stores, as well as energy-efficient improvements and upgrades to building automation systems, rooftop units, LED lighting, energy-conserving fixtures, and indoor air quality technology at Neiman Marcus stores in Dallas; Austin; San Francisco; Troy, Michigan; Pinnacle Point, Texas; Sunrise, Florida; and more.

New Technologies

High Output Electrode Boilers Set New Standard for District Heating

Advanced electric boilers offer output equal to fuel burning units with 100% energy efficiency, zero emissions, and minimal installation, operation, and maintenance costs.

By Del Williams Technical Writer

Advanced electric boilers offer output equal to fuel burning units with 100% energy efficiency, zero emissions, and minimal installation, operation, and maintenance costs

In many areas of the U.S. and Europe, district heating remains popular for space and water heating of residential and commercial buildings. Although the source of the heat supplied can vary, one common approach is to utilize fuel-burning boilers that produce steam. Unfortunately, conventional boilers present several challenges, including low efficiency when transforming fuel energy to heat; high installation, operating, and maintenance costs; environmental impact from harmful emissions; and some inherent safety issues.

There is growing interest in utilizing a new generation of jet type electrode boilers as an environmentally friendly solution. Due to considerable advances in the technology, these electric boilers can match the capacity (up to 65 MW) and output (270,000 pounds of steam per hour) of traditional gas or oil-fired boilers. When more output is required, multiple electric boilers can be connected to provide hundreds of megawatts of steam for district heating, and effectively replace gas fired boilers in a much smaller overall footprint.

There are a growing number of compelling reasons for municipalities to utilize high voltage, jet type electrode boilers for district heating, according to Robert Presser, Vice President of Acme Engineering, a manufacturer of industrial and commercial boilers with operations in the U.S., Canada, and Europe.

"Jet type electrode boilers can match the heating output of fuel burning boilers while converting almost all the energy to heat," says Presser. "Electrode boilers also resolve many of the inherent drawbacks of fossil fuel burning boilers: they are much smaller, put out zero emissions, and minimize installation and maintenance costs."

Today, the spiking cost of gas and oil is often a factor when considering an upgrade of an existing district heating system. In some cases, the concern is minimizing environmental impact. Natural gas-fired boilers and furnaces emit dangerous nitrogen oxides (NOx), carbon monoxide (CO), nitrous oxide (N2O), volatile organic compounds (VOCs), sulfur dioxide (SO2), particulate matter (PM), and the notorious greenhouse gasses carbon dioxide (CO2) and methane (CH4).

Regardless of the motivation, upgrading entails retrofitting or replacing boilers (the heat source) with cleaner, more efficient electric alternatives, along with the heat distribution network (pipes/heat exchanger stations).

Designed for Optimal Performance

Jet type electrode boilers have existed in various forms for many decades. However, recent design improvements have closed the output gap while surpassing conventional units in terms of efficiency, simplicity, responsiveness, and safety.

Modern jet type electrode boilers utilize the conductive and resistive properties of water to carry electric current and generate steam. An A.C. current flows from an electrode of one phase, through neutral, to an electrode of another phase using the water as a conductor. Since the water has electrical resistance, the current flow generates heat directly in the water itself.

"The more current [amps] that flows, the more heat [BTUs] is generated and the more steam produced. Nearly 100% of the electrical energy is converted into heat with no exhaust stack or heat transfer losses," says Presser.

As an example, in the CEJS High Voltage Jet Type Steam Boiler from Acme Engineering, the electrodes are vertically mounted around the inside of the pressure vessel, which enables the unit to produce maximum amounts of steam in a minimum amount of floor space. The units operate at existing distribution voltages, 4.16 to 25 KV with exceptional efficiency – up to 99.9% efficient at converting energy into heat. Models can produce steam in capacities up to 270,000 pounds per hour, with pressure ratings from 75 PSIG to 500 PSIG. All CEJS boilers are designed to ASME Section VIII Division1 and are certified, registered pressure vessels.

The advanced steam boilers also have a 100% turndown ratio, the ratio between a boiler's maximum and minimum output. Most gas boilers have a 10:1 or 5:1 ratio.

"The turndown means you can leave the boiler in standby at low pressure and, when needed, bring it to full capacity in about 90 seconds, which no other boiler type can achieve today," says Presser.

"With the electric boilers, the energy input and adjustment are very precise and virtually immediate. In contrast, increasing or decreasing the temperature in a gas fired boiler is a slower process because it takes time for the heat in the boiler to rise or dissipate before reaching the targeted output," he adds.

Jet type electrode boilers also lower costs for installation, operation, and maintenance. Gas-fired boilers require fuel lines, storage and



ADVANCED JET TYPE ELECTRODE BOILERS HAVE A MINIMAL NUMBER OF COMPONENTS AND ELECTRICAL CONTROLS WITH FEWER PARTS

CONTROLS, WITH FEWER PARTS.

handling equipment, economizers, and emission control equipment.

Advanced jet type electrode boilers

have a minimal number of components and electrical controls, with fewer parts. Under normal operation, the absence of excessive temperatures and electrode burnout also assures long operating life.

The units further lower operating costs with automatic controls that reduce the need for operating personnel.

Presser points out that the most advanced types of these boilers, such as Acme's CEJS, also offer greater safety than traditional fuel burning models.

"With the jet type electrode boilers, there are no combustion hazards because there are no flames, fumes, fuel lines or storage tanks. There are no problems with heat buildup or electrode burnout even if scaling should occur, and

Continued on Page 39



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New Products

BOLT Lock Cable Lock



Contractors can conveniently secure their ladders to a rooftop rack with **BOLT Lock's** "Breakthrough One-Key Lock Technology" Cable Locks. The unique advantage of BOLT's Cable Lock is it operates with the vehicle ignition key. BOLT Locks use specially crafted tumblers to memorize a vehicle's ignition key the first time it is inserted to a lock. One complete turn of the key moves the tumblers to fit that specific key, the vehicle ignition key.

BOLT's Cable Lock is a 6' long coil wire coated with ¼-inch thick black vinyl. The company's patented lock has a double ball bearing lock mechanism, is weatherproof and is designed with a stainless steel lock shutter to keep dirt and moisture out. A plate tumbler sidebar prevents picking and bumping and the auto return spring locks automatically when the key is removed.

"The one-key convenience of our innovative BOLT Cable Lock is attractive to any type of contractor because they don't have to carry around a heavy keychain loaded with multiple keys, they only need their vehicle ignition key to operate our lock," explained Jason Buckles, Sales Account Manager for BOLT Lock. "And keeping ladders secured to the rooftop ladder rack when driving is as important as keeping them from being stolen."

BOLT Cable Locks are year/ make/model specific and they are available for most General Motors, Ford, RAM/Jeep and Toyota vehicles on the road today. Other BOLT Lock products featuring the "one-key" technology include padlocks, receiver locks, coupler pin locks, trailer coupler locks as well as kingpin locking systems designed to secure fifth wheel trailers.

More information: www.boltlock.com/how-it-works.

Danfoss Climate Solutions Optyma Cooler

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Designed for fast and easy installation, the Optyma™ Cooler is a compact and efficient unit cooler for walk-in cooler and freezer applications.

The Optyma™ Cooler, the latest offering from **Danfoss Climate Solutions**, is specifically designed

for quick and easy installation and high efficiency. This unit cooler features unique cross-rifling inside the heat exchanger tubing, maximizing air turbulence. A maintenance-free, factory-balanced variable-speed capable fan motor comes standard, ensuring high efficiency and food safety. Maintenance is easy thanks to the powder-coated aluminum-magnesium alloy for a corrosion-resistant, durable, smooth, cleanable surface and extended cabinet lifetime.

Users can get the most out of Optyma™ Cooler with the Coolselector2 app available for smartphones and tablets. Coolselector2 allows for easy optimization with other Danfoss walk-in products such as Optyma outdoor and indoor condensing units, electronic room controllers, and many other Danfoss components.

Other highlighted features include:

- Highly secure stainless-steel slotted brackets in both front and back
- Extra robust factory-fixed drain fitting
- Unique electric defrost coil design with coil-embedded heaters for fast and efficient defrost
- Wide capacity range with 6 FPI and 4 FPI, low/medium and high-profile models available
 - Industry-leading warranty

"The Optyma™ Cooler is manufactured to the highest worldwide quality standard, based on decades of design and development experience," said Douglas Custodio, Optyma™ Cooler product manager. "Its compact and powerful design provides maximum performance to ensure efficient and reliable operation."

More information: www.danfoss.com.



Shurtape Technologies Duck Pro

Shurtape Technologies, LLC, an industry-leading manufacturer and marketer of pressure-sensitive tapes, expands its portfolio of professional grade duct tapes with the introduction of the Duck Pro® by Shurtape® line of tape solutions.

This multi-faceted family of high-performance tapes features 13 tape types divided among four tape grades: utility, general purpose, professional and premium. Designed for a range of applications,



Duck Pro by Shurtape provides contractors with a broad selection of durable products for everything from bundling and labeling to masking and abatement.

Made in the USA, Duck Pro by Shurtape tapes are extremely durable. In fact, many tapes in the new line feature Shurtape's CO-EX Technology*. During the co-extrusion process, the tape's components meld together under high temperatures in one step, resulting in a permanent, airtight bond. This seamless construction gives the tape additional strength and ensures that it will not delaminate.

All tapes in the Duck Pro by Shurtape family unwind and tear easily, making them the ideal toolbox staple designed for a wide variety of applications. And all of the line's tapes undergo rigorous quality and standards testing to ensure quality and consistency.

More information: www.shurtape.com/duckpro.

Green Link Caps and Straps

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Green Link has changed the composition of its straps and caps from urethane to injection molded glass-reinforced nylon, still retaining the striking "safety yellow" color. Straps are designed for Heavy Pipe while a cap design was developed for Lite Pipe Supports.

The Heavy Pipe KnuckleHead strap secures a 2½-inch nominal pipe. The Lite Pipe Support cap is designed to secure a single 1-inch nominal pipe or two ½-inch nominal pipes. Pipe supports straps and caps are attached with standard stainless-steel screws, which are supplied with the heads.

"We custom engineered these products to fit the unique shape of our head designs," said Lisa Mulder, Vice-President and Technical Liaison. "There is growing interest in securing rooftop mechanical installations in the face of today's climatic weather events. These straps increase the stability

of pipes, conduit, channel and related mechanical equipment. Additionally, they satisfy local code requirements."

GREEN LINK is an innovative engineering company that develops and produces polymeric architectural products for the construction industry. Original Design, engineered from the ground up with the Contractor in mind, featuring innovative Green Link technology. All made in the U.S.A.

More information: www.green-linkengineering.com.

Miller-Picking Custom AHU



Miller-Picking custom air handlers delivers world-class custom air handling units with industryleading quality and advanced performance. Each custom air handling unit is designed specifically to customers' needs and optimized for performance to meet any application. Features include a High Strength Base, a casing innovation that provides the same strength with less metal (steel or aluminum) than competing air handlers. The custom air-handler also is equipped with fan arrays with highly efficient, direct-drive AC induction or EC motors and a continuous thermal break built-in.

Miller-Picking custom air handlers are backed by decades of air handling experience and state-of-the-art test facilities. These customer air handlers are manufactured in facilities that allow for low lead times and custom configuration through automated processes.

More information: www.miller-picking.com.

NIBCO INC. 585HP

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NIBCO INC. expands its line of high-performance ball valves to include 2 ½", 3" and 4" sizes of the 585HP-LF and 585HP-66-LF bronze ball valves in solder, threaded and press end connections.

Designed for commercial and industrial applications, the lead-free and corrosion-resistant 585HP full port ball valve line allows for easier installation, adjustability, and long service life. The patented laser-welded construction eliminates the threaded body to body-end connection allowing



for a higher operating pressure up to 1,000 CWP, and operating temperature up to 250° F.

The expanded 585HP line features a reversible handle providing flexibility for on-site modifications, large accessible packing nut, and a triple-sealed stem. These elements combine to make a valve that is easy to install, durable, and dependable all backed by a 10-year, 125 percent limited warranty.

Lightweight and North
American-made, the line of
585HP valves have the following listings and certifications:
MSS-SP110/145; IAPMO/ANSI
Z1157; NSF/ANSI/CAN 61-8
Commercial Hot 180° F; NSF/ANSI 372; ICC-ES PMG-1558.

More information: www.nibco.

Nu-Calgon EasyDye



Nu-Calgon has launched EasyDye™, a new fluorescent leak detection dye from Nu-Calgon. EasyDye simply injects into an AC/R system in seconds, and its ultra-bright fluorescent color helps contractors find refrigerant leaks anywhere in the system.

EasyDye works with all commercially available oils, and it is perfect for split systems, heat pumps, microchannel coils, packaged units and mini-splits. EasyDye is super concentrated for use in 1.5 to 6 ton systems.

After injecting EasyDye (part #4050-51), contractors can easily find leaks using an ultraviolet flashlight like the one sold in our UV Leak Detection Kit (part #4050-15).

For over 70 years, Nu-Calgon has been providing quality specialty products for the HVACR market. The company's complete line of products includes coil cleaners, descalers and refrigeration oils, as well as products for indoor air quality, water treatment,

New Products

ice machine maintenance and other applications.

More information: www. nucalgon.com.

RectorSeal Calci-Flush

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RectorSeal®, Houston, a leading manufacturer of quality HVAC/R and plumbing tools and accessories, and a whollyowned subsidiary of CSW Industrials, Inc. [NASDAQ: CSWI], introduces Calci-Flush™ standard tank water heater flush.

Calcium and scale build-up is a leading cause of premature tanked water heater failure. Unless the tank is adequately flushed regularly, its heating ability will be hindered by the formation of calcium deposits that are released through normal operation or when chemicals enter an unmonitored breakdown product at elevated temperatures. Eventually, these built-up compounds can lead to a call for a replacement and result in unsafe conditions.

When used properly, Calci-Flush helps eliminate calcium and scale buildup and restore circulation and water pressure in about 60 minutes. Using Calci-Flush as part of a water

Johnson Controls

Continued from Page 19

of organizations believe data analytics and cybersecurity will have an extremely or very significant impact on the implementation of smart buildings over the next five years.

The survey revealed that actionable policies are also important for progressing energy efficiency goals. 85% and 72% of respondents, respectively, reported that performance benchmarking/certifications and performance standards for energy codes are critical to improving energy efficiency efforts.

The Johnson Controls Energy Efficiency Indicator Survey collected responses from a 1,000 participants globally between November and December 2021.

tank maintenance program helps extend the life and performance of a standard water heater.

Available in a gallon jug, Calci-Flush is easy to use. After the water to the tank is turned off and the tank is drained, connect the Calci-Flush container to the tank's drain valve with the included hose adapter. Calci-Flush enters the water tank via gravity flow and starts to work immediately. In approximately 30-60 minutes, the water tank can be flushed, refilled, refreshed, and ready to deliver optimized performance. Calci-Flush is NSF certified.

Since 1937, RectorSeal has offered products that have built a steadily growing and loyal following among contractors due to differentiated and proven product performance. Further, the company is often the first to tackle and solve

challenges professional trade contractors face.

More information: www.rectorseal.com.

Taco 00e VR Series

Taco's new VR Series highefficiency ECM cast iron or stainless steel circulators offer a wide range of low, medium or high head options in sizes from 1/3 - to 2-HP. Easy, intuitive settings and operation will appeal to installers for a broad range of uses, including HVAC, hot water recirculation and NSF commercial hot applications.

00e VR circulators provide an easy-to-program pump interface with real-time feedback. Modbus, BACnet, 0-10Vdc + pulse width modulation (PWM) are standard. The circulators provide 62 feet max head and up to 320 GPM flow. They are NSF/ANSI



61 + 372 commercial hot certified.

The circulators are also equipped with ASHRAE's 2019 Software Innovation Award-winning Taco Tags, providing vital product/application information instantly to phones or other mobile devices. Even the molded insulation shell is included.

More information: www.Taco-Comfort.com.

Viega Press Fitting System

.

Viega, a press fitting system that meets the standard for use on Navy combat ships, has won approval

for additional components to be used onboard.

Last year, the Naval Sea Systems Command (NAVSEA) approved the use of MegaPress CuNi press fittings in sizes ½" to 2" to be used in surface combatant vessels for a variety of systems, including chilled water, potable water, electronic freshwater cooling, seawater cooling, washdown countermeasures, drainage, and many others. ProPress copper 1/2" fittings were



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TUCSON, AZ 520-795-1484 YUMA, AZ 928-248-2576 **ANAHEIM, CA** 714-635-5956 EL CAJON, CA 619-449-9550 ESCONDIDO, CA FRESNO, CA **IRWINDALE, CA** LONG BEACH, CA 562-200-0089 ONTARIO, CA 909-987-4207 PASO ROBLES, CA 805-434-1460 POMONA, CA **RIVERSIDE, CA** 951-271-8290

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New Products

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also approved for potable water and various drains.

This new extended approval from NAVSEA includes the addition of MegaPress CuNi 90° elbows, 45° elbows, straight tees, reducing tees, and reducer couplings. This allows shipbuilders and Navy personnel to better integrate Viega fittings into onboard systems.

"NAVSEA is arguably the toughest standard in the world and we're proud to have won additional approvals for our system," said Viega LLC's Director of Marine TJ Tracy. "We make the most reliable press fittings in the world and this is proof of that."

MegaPress CuNi is made of a 90/10 copper nickel alloy specifi-

cally designed to withstand harsh marine environments.

More information: www.viega.us.

Watts Tailpiece Connections



Watts has announced the addition of cold expansion fitting tailpiece connections (PEX F1960) for the LFMMV and LF1170 mixing valve series. The addition of PEX F1960 union tailpieces allows Watts

to continue to offer a wide range of tailpiece options for these point-of-use and point-of-source thermostatic mixing valves, which also includes threaded, sweat, PEX, CPVC, press, and push-to-connect options.

Connections are available in ½" and ¾" sizes.

More information: www. Watts.com.

Little Giant HT-VCL Series

Franklin Electric Co., Inc. (NASDAQ: FELE) brand **Little Giant** is giving HVAC professionals a durable, proven option when it comes to condensate removal with the HT-VCL Series – a line of high-temperature condensate



pumps plenum rated for use within the tight floor and ceiling spaces HVAC units must often go. The units are considered the highest performing pumps in the Little Giant family.

The HT-VCL Series is built for optimum performance in handling a variety of challenging settings, including steam humidifiers and boiler applications, with proven long-term reliability. Each unit is constructed with plastics that

have been tested and comply with Underwriter's Laboratories' UL Standard 2043 "Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air Handling Spaces." They also offer installation features that set them apart, including a uniquely constructed external pump switch test lever to help installers ensure the pump is functioning without needing to fill the tank.

The HT-VCL Series boasts higher flow ratings versus competitive products and comes in 1/8 and 1/3 hp models with flows up to 575 gph at five feet with a maximum of 62 feet of head. Each is backed by the manufacturer's two-year warranty.

More information: www. franklinwater.com.

Green Technologies

Aeroseal Tapped for "Solving for Zero: The Search for Climate Innovation" Project

New educational series, based on Bill Gates' bestselling book, "How to Avoid a Climate Disaster," highlights climate change innovations.

A 10-part educational series will increase awareness of the scientists, start-ups, and solutions helping the world reach net zero carbon emissions by 2050. "Solving for Zero: The Search for Climate Innovation," premiering on Wondrium – the leading streaming provider of lifelong learning content – features Bill Gates along with Aeroseal and its leak sealing technologies that increase the energy efficiency of buildings by as much as 90%.

Aeroseal's mission is to shrink

carbon emissions from buildings by as much as 1 gigaton of CO2 annually with its breakthrough technologies. Aeroseal has already completed nearly 200,000 seals, saving up to \$2 billion in energy waste globally.

Based on Gates' best-selling book, "How to Avoid a Climate Disaster" "Getting to net zero by 2050 will be hard and will require innovation across sectors, but I'm optimistic that together we can reach our goals," said Bill Gates. "These projects from Wondrium highlight exciting solutions that I hope inspire people to think more broadly about the issue and consider what each of us can do to fight climate change."

The series is available through Wondrium's subscription video on demand (SVOD) service. It walks through the science required to combat climate change with a no-nonsense, course-like approach while detailing solutions like Aeroseal's that can help us reach net zero emissions.

Aeroseal's technologies were singled out for this project because they address a serious problem – energy-wasting leaks in the buildings we work and live in.

Aeroseal is highlighted in lesson seven, "The Buildings We Live In." This lesson highlights proven solutions that are making residential and commercial buildings more energy efficient and having a significant impact on climate change.

Aeroseal's technologies were singled out for this project because they address a serious problem – energy-wasting leaks in the buildings we work and live in.

Of the 40% of energy consumed by buildings, up to 30% of it is wasted due to leaks in HVAC ducts and exterior walls. This is due to the manual installation of ducts and wall construction methods used for new and existing buildings. In fact, even if a building has new, high efficiency heating and cooling units, energy





"SOLVING FOR ZERO" SERIES WAS BASED ON BILL GATES' (ABOVE) BEST-SELLING BOOK, "HOW TO AVOID A CLIMATE DISASTER."

is still wasted due to leaks in the ducts and walls.

Aeroseal's duct sealing and air sealing technologies represent simple, cost-effective ways to eliminate these energy-wasting leaks. Both solutions reduce air leakage by 90 percent or more. This reduction allows a building to operate more efficiently, shrink its carbon footprint, and reach net zero.

About Wondrium: Wondrium is a newly-rebranded global SVOD service offering over 7,500 hours of a broad slate of intellectually stimulating, nonfiction learning content. Wondrium takes the learning experience to the next level, combining the library and legacy of

in-depth content from The Great Courses with the best in entertaining, engaging, and educational content. The service will provide a resource that complements people's daily media habits, allowing them to pursue their passions, dig deeper into subjects, and find something they will love to learn about.

About Aeroseal: Aeroseal's mission is to shrink carbon emissions from buildings by as much as 1 gigaton of CO2 annually with its breakthrough technologies. Aeroseal has already completed nearly 200,000 seals, saving up to \$2 billion in energy waste globally. Visit https://aeroseal.com/ for more information.

Duct Leakage Testing? VENT CAP MAKING GREEN FASTER CHEAPER SAFER FASTER SAFER G CHEAPER SAFER G CHEAPER SAFER G CHEAPER SAFER G CHEAPER SAFER SAFER G CHEAPER SAFER SAFE

www.VentCapSystems.com

ABM Supports EPA's New Guidelines on IAQ in Buildings

In March, the Biden Administration launched its "Clean Air in Buildings Challenge" – an integral piece of the National COVID-19 Preparedness Plan released by the Administration earlier in March, to encourage building owners, schools, colleges and universities, building

operators, and organizations to implement practices and strategies that improve indoor air quality (IAQ) and diminish the spread of COVID-19.

ABM, a provider of integrated facility solutions, announced its enthusiastic support of the new Clean Air in Buildings Challenge

and will continue its commitment to safeguard the places and spaces people occupy every day.

To prepare building owners and operators for the challenge of improving indoor air quality, the Environmental Protection Agency

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Technical Training

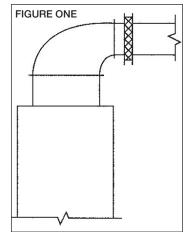
Growing Green Technicians Part 152: Elbows, Splitters and Turbulence

By Jim Johnson Contributing Editor

In the last segment of this series, we discussed the concept of TEL (Total Effective Length) relative to 90° elbows in a supply duct run, and how a properly designed system overcomes that particular "restriction" in air flow to allow proper operation of a comfort cooling system. In this issue, with warmer weather on the horizon, we'll look further into the TEL and fittings-accomplishing-a-turn concept. In severe summer conditions, technicians often find themselves dealing with complaints that a system is just not cooling enough to keep the building at a comfort level of near 75-degrees and 50% relative humidity while maintaining sufficient air flow throughout the building.

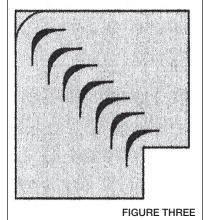
And, of course there are several aspects for technicians to consider in regard to these situations, such as basic air balancing by adjusting supply registers, and confirming that the return air system is operating properly.

When looking deeper into the situation, though, technicians taking a green approach to evaluating system performance can also



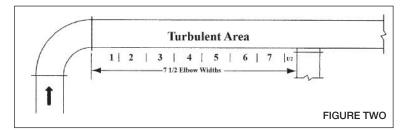
consider not just the operation and balance of the supply duct system itself, but whether the original design of the distribution system may have been affected by unexpected construction situation. In **Figure One** we're showing a simple illustration of an air handler with what is known as a standard elbow.

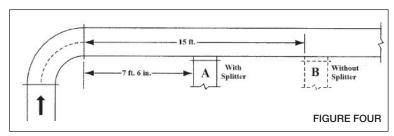
This is considered to be a good installation because of two factors that are considered regarding elbow design. These factors, known as CR (Curve Ratio) and RR (Radius Ratio), explain the rate of turn in an elbow, and from a numbers perspective it's generally accepted that an elbow with a curve ratio of 0.5 and a radius ratio of 1.5 will promote



proper air flow through the supply duct system....at least as proper as it can be. The bottom line on any elbow is that even if it's as good as it can be, it doesn't perform perfectly when it comes to allowing air to change direction. As **Figure Two** shows, there will always be some turbulence created when air exits the discharge side of an elbow.

This illustration shows what happens in a given segment of a straight duct run after the air is delivered from the elbow. The term that relates to this type of turbulence is AR (Aspect Ratio), which describes a given amount of friction loss in an elbow or a straight run of duct based on the width and depth of a fitting or section of ductwork. It is generally





accepted that a ratio in the range of 0.75 to 3.0 will not adversely affect the flow of air. However, what also shows here is that even if this system is operating properly and according to design, a take-off has to be a minimum distance away from the elbow discharge in order to deliver air properly to a branch. In this case, it's shown as 7 ½ elbow widths, which in this example is actually 15 feet in length.

Getting back to the idea of an unexpected construction situation, if a take-off had to be installed closer to the elbow discharge, that branch duct would not deliver supply air properly. Which leads

us to the installation of splitters in the elbow as we're showing in **Figure Three**. And as **Figure Four** shows, this modification to the fitting would allow us to position the take-off as required according to the construction restrictions, closer to the elbow, and taking this step would promote proper air flow through the branch duct.

The end result of modifying the elbow with a splitter installation would be that a balance of air flow in both the cooling and heating modes could be achieved, ensuring that the equipment would operate efficiently and ensure the desired comfort level in the building.

IAQ in Buildings

Continued from Page 28

(EPA), in partnership with the Department of Energy (DOE), Centers for Disease Control and Prevention (CDC), and other federal agencies, provided a guide that details the four components of recommendations that include: creating a clean indoor air action plan, optimizing fresh air ventilation, enhancing air filtration and cleaning, and engaging the building community.

"At ABM, we applaud this action dedicated toward advancing the adoption of crucial indoor air quality guidelines," Josh Feinberg, chief strategy officer, ABM, stated. "As we continue to navigate the uncertainty of COVID-19, it's imperative that effective strategies are implemented to better equip organizational leaders to reduce the spread of the virus, thereby creating healthier spaces for all."

Since the beginning of the year, states have been steadily removing mask mandates, re-opening facilities at full capacity, and no longer requiring proof of vaccination. As these protective protocols deescalate, there is an opportunity to

apply key learnings and improve the health of the air within facilities. The Clean Air in Buildings Challenge, along with efficient standards of enhanced cleaning practices, provide a roadmap for building owners and operators to support slowing the spread of COVID-19 variants and providing a better overall indoor environment.

Aligning with this objective, ABM will continue to execute multipronged integrated facility service solutions for business decision makers and building owners and operators to deploy a holistic approach to facility health.

"Keeping occupants safe through incorporating proper ventilation, mechanical, and control systems, along with several new and advanced technologies for biohazard disinfection of the air is critically important. The COVID-19 pandemic thrust a spotlight on the essential responsibility of companies to address the wellbeing of people, and businesses across industries must prioritize improvements to their facilities to achieve proper risk assessment in real-time, said Nancy M. McClellan, ABM expert advisory council.







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

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A. O. Smith Donates Water Heaters, Supports Post-Flood Rebuilding Efforts in Tenessee

A. O. Smith, a water heater manufacturer, has donated 200 water heaters for Waverly, Tenn. flood relief efforts. The units will be provided to flood victims who are still rebuilding eight months after storms ripped through the town on August 21, 2021.

"At A.O. Smith, we are deeply committed to supporting our local communities," said David Chisolm, vice president of marketing and customer experience. "Hot water is such a basic life necessity. We hope the donation of these units will allow this community to rebuild more quickly while lessening the financial burden. We also hope that this will inspire other companies to step forward with additional donations to assist in rebuilding the Waverly community."

In August 2021, treacherous storms swept through the Waverly community claiming 20



ONE OF THE HOMES AFFECTED BY LAST YEAR'S FLOODS.

lives, including several children. Hundreds of homes were damaged, and some residents have even had to purchase trailers and RVs to live in while their homes are being repaired. Of the homes that were destroyed or severely damaged, 80% of them are owned by people ages 70 or older, and most of those homeowners are living on social security wages.

"The past eight months since the flood have been incredibly difficult, but Waverly is a resilient town," said Susan Hodges, a Waverly resident. "When our family began rebuilding, we had no idea how long the process would take or just how expensive it would be. We're grateful for the money we've saved by not having to purchase a water heater, but the impact of A. O. Smith's donation goes beyond that – it's a huge step toward making our home livable once again, and it's raised our spirits along the way."

FEMA helped support the community at the beginning of its redevelopment phase immediately after the flooding, but the extensive damage has continued to put pressure on homeowners. Community members have worked relentlessly to help their neighbors, friends, and family in the area recover from the devastation. Hodges has two adult children living in Waverly whose houses were destroyed by the flood. She has spent the last eight months assisting them to complete home renovations.

"The Waverly community has worked tirelessly to help neighbors and friends rebuild from this tragedy. We are so thankful for the water heater donation from A. O. Smith," said Kave Thomas of First Baptist Church Relief Efforts. "Water heaters are an essential item that many of our homeowners could not afford without the help from A. O. Smith. This donation truly gave the Waverly community a renewed sense of hope in what continues to be a long road to recovery. It will allow our community to continue to push forward in recovery efforts as we rebuild."

The units were delivered to the First Baptist Church in Waverly earlier this year, and roughly 100 units have already been distributed to families in need. Distribution and installation will continue in the coming months.



CONTRACTOR PARTNERSHIP PLATFORM



PROGRAM OVERVIEW

The SoCalGas Contractor Partnership Platform (CPP) provides participating contractors with a \$200 incentive for every Energy Star® central natural gas furnace and \$150 incentive for every Energy Star tankless water heater they install at single-family residences within SoCalGas' service territory. Multifamily and commercial properties do not qualify.

HOW TO PARTICIPATE

Contractors may enroll in the CPP by registering with program administrator Affinity Engineering (AE). After completing an energy efficiency training, which will be provided at no-cost, approved contractors should send qualified project invoices and other required information to AE for incentive processing and approval. Contractors must also

The Contractor Partnership Platform (CPP) Program is funded by California utility customers and administered by Southern California Gas Company (SoCalCas) under the auspices of the California Public Utilities Commission, through a contract awarded to Affinity Engineering. Program funds, including any funds utilized for rebates or incentives, will be allocated on a first-come, first-served basis until such funds are no longer available. This program may be modified or terminated without prior notice. Contractors who choose to participate in this program are not obligated to purchase any additional goods or services offered by Affinity Engineering or any other third party. The selection, purchase, and ownership of goods and/or services are the sole responsibility of contractors. SoCalGas makes no warranty, whether express or implied, including the warranty of merchantability or fitness for a particular purpose, of goods or services selected by contractors. SoCalGas does not endorse, qualify, or guarantee the work of Affinity Engineering or any other third party. Affinity Engineering is a SoCalGas authorized contractor responsible for administering this program through 3/31/2023. Eligibility requirements apply, see the program

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attend additional energy efficiency trainings every six months to remain eligible for the program.

AVAILABLE INCENTIVES

Energy Star

Participating contractors must install furnaces and/ or tankless water heaters that meet the energy efficiency requirements noted below. Customers may also utilize the SoCalGas Home Energy Efficiency Rebate Program to obtain rebates. For rebate information, visit socalgas.com/rebates.

Certified Appliance Type	Required Efficiency	Rebate Amount*	CPP Incentive	
	92-94% AFUE	\$115		
Natural Gas Furnace	95-96% AFUE	\$325	\$200	
	97%+ AFUE	97%+ AFUE \$1,000		
Natural Gas	UEF: .8286	\$600		
Tankless Water Heater	UEF: .8794	\$800	\$150	
	UEF: .95+	\$1,000		

^{*} Rebates belong to the SoCalGas account holder but may be signed over to the contractor.

CONTACT

Affinity Engineering 903-265-9652 CPP@affinityengr.com



Contractor's



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Troubleshooting

A 12-Year-Old Heat Pump That's Not Keeping People Comfortable

By Jim Johnson Contributing Editor

In this month's troubleshooting situation, summer is in full swing, and the outdoor temperature has been in the low 90s for more than a week, and the equipment you are called to service is a 12-year-old split system heat pump. The customer's description of the problem is that the building was being kept comfortable at the beginning of the cooling season, but they have noticed lately that while there is air flow from the registers, the building is too warm for comfort, especially in the afternoon.

When you arrive at 2 p.m., you confirm that the indoor air handler is operating. And you also note that since preventive maintenance has been performed regularly on this system, the filter is clean and the air flow throughout the building is sufficient. The thermostat has been turned down to 70-degrees, but the temperature in the building is near 80-degrees.

Moving to the outdoor section, you find that the outdoor fan motor blade is moving air, and the compressor, which is hot and off on its internal overload, cycles on after a short time. (The diagram in **Figure One** shows the circuitry for the compressor and outdoor fan motor of this system.) After a brief run time, the compressor again kicks off on overload.

In order to be sure that there is sufficient air flow you decide to check the outdoor fan motor circuit. Your voltage check from L1 to HIGH on THC shows 240 VAC, and a test from L1 to LOW

LEGEND

COMP: Compressor
OL: Internal Overload
MS: Motor Starter
C-a: Run Capacitor
C-b: Run Capacitor
THS: Thermostatic Switch
OFM: Outdoor Fan Motor
OFMRC: Outdoor Fan Motor
Run Capacitor

shows 0-volts.

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

Bonus Question: This equipment employs a crankcase trickle heat circuit in the off cycle. True or False?

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-

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

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

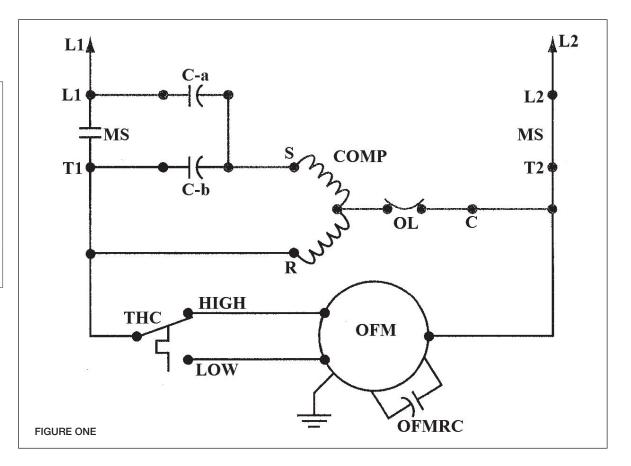
Answer to Last Month's Troubleshooting

A good correct answer to the first question is that the transformer and the blower motor are OK. You could also say that the fan relay or the printed circuit board that incorporates a fan relay assembly is OK too. All of these components can be eliminated as possibilities because the indoor fan motor is running.

The two correct answers to the second question are the contactor and the condenser fan motor. Without the contactor operating normally, the condenser fan motor wouldn't be running, nor would the compressor be attempting to start.

The final answer to our "blowing warm air" complaint is that we would have to replace the potential relay. When our meter showed infinity at the SR coil, it proved that the coil was open, which would prevent the relay from opening the SR switch. And the end result of that situation would be that the start capacitor would not be taken out of the circuit, causing excessive current draw, which would cause the compressor to kick off on its internal overload.

The winner of Last Month's Troubleshooting is **Christopher Caceres**





INTRODUCING THE CHP-5

With the Certified HVAC Professional (CHP-5) pathway, technicians can now earn their NATE Certification with five thirty-question exams designed to mirror the ways they learn and grow in the field.

Online proctored exam options available.

www.NATEX.org



NEW: NATE TRAINING ACADEMY

NATE has teamed up with Interplay Learning to create a new online platform with on-demand interactive courses that prepares technicians for the CHP-5 exams.

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Case Study

Venstar's Explorer Helps Improve IAQ in Southern California Couple's Home

A Southern California couple recently purchased a home in the San Gabriel mountains. As individuals who work from home, they needed peace of mind that their indoor air is clean and healthy. To integrate a clean air solution, they upgraded their HVAC system to deliver the ultimate in indoor air quality for healthy living.

Venstar Explorer IAQ

The homeowners turned to Venstar Inc., a leading thermostat and energy management systems supplier. They chose Venstar's Explorer® IAQ (Indoor Air Quality) Wi-Fi® thermostat with Air Patrol® (T3950-IAQ).

The Explorer IAQ Air Patrol features include:

- Continuous monitoring and measuring of the indoor air quality
- Circulation of air through the HVAC filtration system
- Assertion of an auxiliary output to control third-party devices, such as Fresh Air Dampers, Ionizers and

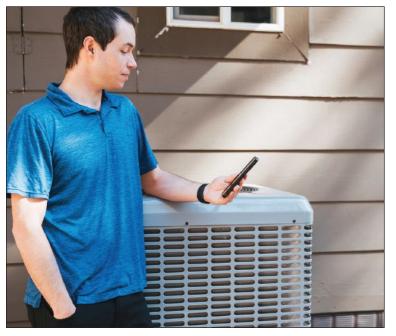
To maximize their home's indoor air quality, the homeowners upgraded to a deluxe, high-efficiency, two-stage outdoor air conditioner with a steam humidification system. They also added a fresh air damper that automatically opens to let fresh air in and closes when it's not needed. An indoor ionizer is used to clean the air, and upgraded filters prevent contaminants from being circulated within the home.

Results: Affordable Indoor Air **Quality Solution**

Venstar's Explorer IAQ is an affordable solution to ensure healthy air quality in residential settings. The thermostat controls and integrates the home's clean-air solutions to ensure the home's indoor air quality meets the pre-selected levels. Explorer IAQ's benefits include:

- Improved indoor air quality to provide peace of mind
- Balanced environment of temperature, humidity and indoor air quality
- Convenience of Venstar's free Skyport® Mobile App to view and monitor indoor air quality

About Explorer IAQ Venstar's Explorer IAQ Wi-Fi



VENSTAR'S FREE SKYPORT MOBILE APP ALLOWS HOMEOWNERS TO INSTANTLY ACCESS AND CONTROL THEIR THERMOSTATS TO MANAGE THEIR INDOOR AIR QUALITY.

thermostats give users control of their indoor air quality (IAQ) at home and at work. The thermostats feature a built-in indoor air quality sensor that continuously samples and measures the IAO. The Explorer's Air Patrol feature

monitors the IAQ, and when the air quality falls below a selectable level, Explorer will circulate the air through the HVAC's filtration system and assert an AUX output until the air quality returns to an acceptable level. The Explorer IAQ

Wi-Fi thermostat is available in residential and commercial models as well as a model specifically designed for schools.

About Skyport Cloud Services

Venstar's free Skyport Cloud Services allow users of Venstar's Wi-Fi thermostats to use Venstar's free Skyport Mobile App on their Apple iOS and Android mobile devices or directly from the Web to instantly access and control multiple thermostats at numerous locations.

About Venstar

Founded in 1992, Venstar Inc. is a leading thermostat and energy management system (EMS) manufacturer, known for providing value to its customers via ease of use and installation, proven cost savings, improved energy efficiency, quality and reliability.

Venstar is one of the largest thermostat suppliers in the world and designs and produces Venstarbranded products as well as OEM thermostat products for the biggest names in HVAC.

Danfoss Components Help Washington-Based Pro-Refrigeration Put Innovation Into Action

With the approaching HFC phasedown, the demand for environmentally friendly cooling systems is driving chiller manufacturers to innovate. Washingtonbased Pro-Refrigeration, Inc., a leading manufacturer and supplier of chillers for the industrial and beverage processing market and a longtime customer of Danfoss, developed the idea of a CO2 chiller and determined that Danfoss components had the capacities and safety ratings to meet the needs of the project. The collaboration brought big dividends to a California dairy farm and ultimately, to the environment.

Since CO2 is a natural refrigerant with a GWP rating of 1, not only does it have zero impact on global warming, it also allows refrigeration systems to recover 100% - three times that of chillers using synthetic refrigerants - of the heat rejected from their systems, generating hot water at up to 200 degrees. For Pro-Refrigeration, heat recovery capability is an essential product feature, as beverage plants, dairy farms in particular, use a high amount of natural gas or propane to heat water for sanitizing and wash-down. Heat recovery technology lowers both their costs and climate impact.

The Danfoss components utilized in the CO2 chiller include the AK-SM850A system manager,



THE CO2 CHILLER IS INSTALLED AT A CALIFORNIA DAIRY

"The Danfoss components provide the brains of the system," explained Jim VanderGiessen, Pro-Refrigeration's co-founder and CEO. "They keep the system running in an optimal manner." As part of its constant monitoring and adjustment to external conditions, the system manager generates alerts and alarms, so that the facilities staff can immediately identify and address potential mechanical problems. The

refrigeration control system also allows Pro-Refrigeration engineers to access the data remotely for improved customer support and troubleshooting capabilities.

THE DANFOSS COMPONENTS PROVIDE THE BRAINS OF THE CO2 CHILLER.

A California dairy farm was a willing and eager customer for the inaugural CO2 chiller. Since installation, the milk temperature has averaged 37.1 F, whereas their previous chiller was unable to cool below 40 F. As a result, the farm was able to earn a quality bonus from milk processors and see

revenue increases in the range of \$1,400 to \$2,800 per day.

The chiller also recovers the waste heat from the chiller system to heat the wash water, heating 3000 gallons of well water per day from 70 F to 140 F and eliminating the need to use fossil fuels (propane) as a heating source. Early results tracking indicates that the heat recovery operation is saving the farm 30 gallons of propane each day, totaling about \$2,100 in savings per month.



as the CCM 20 and CCMT 30 electric regulating valves, BC 5100 pressure switches, pressure and temperature sensors, and other accessories such as AK-PS 250 power supply and GDC gas detector. All of the parts work together to monitor the cooling system, gather data from the sensors, control when the compressors cycle on and off and ensure the fans and

expansion valves are working cor-

AK-CC 750A case controller, AK-

PC781A pack controller, as well

www.indoorcomfortnews.com

The York HMH7 Horizontal Discharge Heat Pump:

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

Price Competitive With Standard Heat Pumps

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



- Up to 18 SEER/10.5 HSPF
- 40% smaller footprint compared to traditional vertical discharge units
- 36% quieter operating sound; as low as 54 dBA
- Capable of dual-fuel operation when paired with an existing or new furnace, using a Venstar thermostat
- Inverter system and modulating technology
- Modulating technology maintains exact temperatures by operating from 35-100% capacity
- 40% more compact than standard heat pump units and can be installed in tighter spaces - ideal for high-density areas
- · No unique installation procedures required
- Long line set length (up to 246 ft)
- Designed to work with standard ECM indoor air handlers
- Includes a standard 10-year Compressor Limited Warranty and 10-year Parts Limited Warranty; extended warranties available for a full system replacement (product registration required)

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



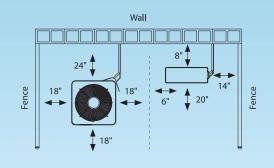
Model	Tons	SEER	HSPF	Height (Inches)	Width (Inches)	Depth (Inches)	Operating Weight (Lbs)	Sound Range (dBA) Low–High*
HMH72B241S	2	17.5	9.0	26 3/8	33 7/8	12 1/4	112	54-65
HMH72B361S	3	18.0	10.5	33	37 3/8	13 3/8	155	56–68
HMH72B481S	4	18.0	9.5	54 5/8	37 3/8	13 3/8	227	62–69
HMH72B601S	5	17.0	10.0	54 5/8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

*High sound rated in accordance with AHRI Standard 270.

40% smaller footprint compared to traditional vertical discharge units



Traditional, Vertical Unit Minimum Clearances vs. HMH7 Minimum Clearances



HMH7 Horizontal Discharge **Heat Pumps**









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El Cajon 619/258-0672 El Centro 760/370-5530 Escondido 760/291-1281 707/424-6050

Fresno 559/268-9347 Hesperia 760/948-8045 Lake Forest 949/837-8104 Lancaster 661/726-5106

Los Angeles 323/897-6969 Modesto 209/577-2335 Newbury Park 805/376-1723

Ontario 909/987-5016 Oxnard 805/988-3650 Palm Desert 760/200-5225 805/238-9353 Redding 530/722-0144 Riverside 951/786-3500 650/871-8100 San Diego 858/279-9750 San Jose 408/278-1555 San Leandro 510/618-2300

Santa Fe Springs 562/801-5432 Santa Rosa 707/566-9810 Signal Hill 562/981-2010

800/937-7222 Temecula 951/296-6557 IDAHO Valencia 661/666-9544

Van Nuys 818/464-3387

Idaho Falls 208/542-5270

NEVADA Sparks 775/329-3455 UTAH Salt Lake City 801/485-8071 or 800/333-8436

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Product Spotlight

Aspen Manufacturing Introduces LGM Series High-Efficiency, Multi-Position Air Handlers

Aspen Manufacturing, LLC (Aspen), one of the largest independent manufacturers of evaporator coils and air handlers for the residential and commercial residential heating, ventilation, and air conditioning (HVAC) marketplace in the United States and Canada, announces the introduction of the LGM Series high-efficiency, multiposition, aluminum coil 120-volt air handlers.

The 120-volt LGM Series offers outstanding installation versatility. The units are shipped as upflow or horizontal right and can be converted for downflow or horizontal left installations onsite by HVAC technicians. When a proper metering device is used, the LGM Series units are ETL listed for use with R-22 or R-410A refrigerants. In addition, they can be AHRI certified with most brands of air conditioners or heat pumps. Available in 2- through 4-ton cooling capacity without electric heat, all



EXTERIOR AND INTERIOR SHOTS OF THE ASPEN MANUFACTURING LGM SERIES AIR HANDLER.

LGM Series models are backed by a 10-Year Limited Warranty.

When properly installed and tested in accordance with ASHRAE standard 193, the

sturdy, fully insulated galvanized steel cabinet offers less than 2% air leakage from the cabinet. A factory-provided knockout for duct return is standard on all

LGM Series models, and all feature an easy access door for coil cleaning

All LGM Series models feature a high-efficiency 120-volt ECM motor with factory programmed software to control motor speeds and torques. Aspen's proprietary software encoding allows the ECM motors to provide optimal performance and reliability. Rail-mounted blowers allow easy removal during service and routine maintenance by HVAC technicians. An electronic control board includes a blower time delay which helps to maximize heat/cool extraction and offers an integrated fuse for additional protection.

A high efficiency, all-aluminum coil with rifled tubing and enhanced fins allows maximum heat transfer on all LGM Series air handlers. As a US-based manufacturer, all Aspen coils are leak tested using a two-stage pressure decay and mass spectrometer process. Further, the coils are pressurized with Nitrogen and factory sealed for maximum reliability. LGM Series air handlers are available with either factory-installed orifice or TXV metering devices. Units can be converted with bolt-on TXVs during field installation.

For additional information, visit www.aspenmfg.com or email Info@AspenMfg.com.

Indoor People



STEVE HOCURSCAK

Steve Hocurscak has joined Watts as Senior Product Manager, Regulators and Automatic Control Valves (ACVs). He will have overall responsibility for Watts Regulator and ACV product management, as well as for developing and executing new strategies focused on business growth.

Hocurscak brings with him to Watts extensive experience in product management for large product portfolios across several industrial verticals. He worked previously in leadership level product and business management roles for valve companies, such as Metso and Neles.

Armstrong Fluid Technology announced that **Mike Fischer** has been promoted to commercial director, global building business, reporting directly to the CEO, Todd Rief.

Fischer joined Armstrong in 2020 as the commercial director

for the USA and Latin America, bringing over 30 years of experience from his work with Honeywell, Johnson Controls, and Siemens. Immediately prior to joining Armstrong, he was vice president of global service sales at Honeywell Building Solutions, where he led a global sales team responsible for selling software and services.

In Armstrong's global sales leadership role, Fischer will be responsible for executing Armstrong's global strategy; enabling the sales organization to achieve both order and revenue growth targets. Fischer has an MBA from Texas Christian University and a Bachelor of Science degree from Central Michigan University.

Taking on the role of commercial director USA is Chris Markert, an experienced business executive with a 30-year career of global management and sales experience in the HVACR industry. His business experience includes senior management positions with Honeywell International and Johnson Controls, where he had responsibility for major business units in North America, Latin America, and the Asia Pacific region.

He has also owned and operated an HVACR contracting and service company, as well as an internet start-up focused on technology for the HVACR industry. Immediately prior to joining Armstrong, he served as Director of North America Service Sales with



MIKE FISCHER

Honeywell, managing five regions. Markert holds a bachelor's degree in engineering from the University of Notre Dame.

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The Unified Group became a woman-owned organization in the mechanical contracting industry with its recent purchase by **Janet Kelleher**.

Kelleher's career with The Unified Group spans 14 years. Since 2015, she's served as executive director under founder and former owner Tim Smerz. In addition to familiarizing herself with her expanded responsibilities, Kelleher has spent time during the transition in ownership adding to her staff to better serve the organization's growing membership.

"When I first took over as executive director, I had six members. On top of that, I didn't have any experience in recruit-

Continued on Page 38



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INSTITUTE OF HEATING AND AIR CONDITOR AN

CALIFORNIA QUALITY INSTALLATION, QUALITY MAINTENANCE AND QUALITY S

SOCALGAS, DOWNEY

JUNE

Air Distribution Module

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

Mon., June 6 - Part 1

Tues., June 7 - Part 2

Mon., June 13 - Part 3

Tues., June 14 – Part 4

JULY

Chiller Module

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

Tues., July 5 - Part 1

Tues., July 12 - Part 2

AUGUST

Commercial Cooling Tower Module

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

Tues., Aug. 2 – Part 1

Tues., Aug. 9 – Part 2

SEPTEMBER

NATE CORE & Gas Heating Training

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

Wed., Sept. 7 – Part 1

Thurs., Sept. 8 – Part 2

Wed., Sept. 14 – Part 3

Thurs., Sept. 15 – Part 4

OCTOBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., Oct. 5 – Part 1

Thurs., Oct. 6 – Part 2

Wed., Oct. 12 - Part 3

Thurs., Oct. 13 – Part 4

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

SOUTHERN CALIFORNIA EDISON, IRWINDALE

JUNE

System Performance Module

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

Wed., June 1 - Part 1

Thurs., June 2 - Part 2

Wed., June 8 - Part 3

Thurs., June 9 – Part 4

SEPTEMBER

Air Distribution Module

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

Wed., Sept. 21 – Part 1

Thurs., Sept. 22 – Part 2

Wed., Sept. 28 - Part 3

Thurs., Sept. 29 – Part 4

OCTOBER

AC/HP Refrigeration Module

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

Wed., Oct. 19 - Part 1

Thurs., Oct. 20 – Part 2

Wed., Oct. 26 – Part 3

Thurs., Oct. 27 – Part 4

November

System Diagnostics Module

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

Wed., Nov. 9 – Part 1

Thurs., Nov. 10 – Part 2

Wed., Nov. 16 – Part 3

Thurs., Nov. 17 – Part 4

SOUTHERN CALIFORNIA EDISON, TULARE

JUNE

Electrical Module

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

Tues., June 7 - Part 1

Wed., June 8 - Part 2

Tues., June 14 – Part 3 Wed., June 15 – Part 4

<u>September</u>

System Performance Module

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

Tues., Sept. 13 – Part 1

Wed., Sept. 14 - Part 2

Tues., Sept. 20 - Part 3

Wed., Sept. 21 - Part 4

OCTOBER

NATE CORE & Gas Heating Training

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

Wed., Oct. 12 - Part 1

Thurs., Oct. 13 – Part 2

Wed., Oct. 19 – Part 3

Thurs., Oct. 20 – Part 4

November

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., Nov. 2 – Part 1

Thurs., Nov. 3 – Part 2

Wed., Nov. 9 – Part 3

Thurs., Nov. 10 – Part 4

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

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

All Classes Are Being Offe

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

SS SCHEDULE

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

PACIFIC GAS AND ELECTRIC COMPANY, STOCKTON

June

AC/HP Refrigeration Module

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

Wed., June 1 - Part 3

Thurs., June 2 - Part 4

Air Distribution Module

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

Wed., June 22 – Part 1

Thurs., June 23 - Part 2

Wed., June 29 - Part 3

Thurs., June 30 - Part 4

AUGUST

System Diagnostics Module

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

Wed., Aug 31 – Part 1

<u>SEPTEMBER</u>

System Diagnostics Module

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

Thurs., Sept. 1 – Part 2

Wed., Sept. 7 - Part 3

Thurs., Sept. 8 – Part 4

OCTOBER

NATE CORE & Gas Heating Training

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

Mon., Oct. 10 - Part 1

Tues., Oct. 11 – Part 2

Mon., Oct. 17 - Part 3

Tues., Oct. 18 - Part 4

NOVEMBER

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

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

Mon., Nov. 7 - Part 1

Tues., Nov. 8 - Part 2

Tues., Nov. 15 - Part 3

Wed Nov 16 - Part 4

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

SAN DIEGO GAS & ELECTRIC

June

Air Distribution Module

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

Wed., June 15 - Part 1

Thurs., June 16 - Part 2

Wed., June 22 - Part 3

Thurs.. June 23 - Part 4

JULY

System Diagnostics Module

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

Wed., July 6 - Part 1

Thurs., July 7 - Part 2

Wed., July 13 - Part 3

Thurs., July 14 - Part 4

AUGUST

System Performance Module

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

Wed., Aug. 3 - Part 1

Thurs., Aug. 4 - Part 2

Wed., Aug. 10 - Part 3

Thurs., Aug. 11 – Part 4

SEPTEMBER

Chiller Module

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

Tues., Sept. 6 - Part 1

Tues., Sept. 13 – Part 2

Commercial Cooling Tower Module

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

Tues., Sept. 20 – Part 1

Tues., Sept. 27 – Part 2

OCTOBER

Boiler Module

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

Tues., Oct. 4 – Part 1

Tues., Oct. 11 – Part 2

Commercial Refrigeration Module

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

Tues., Oct. 18 - Part 1

Tues., Oct. 25 – Part 2

NOVEMBER

NATE CORE & Gas Heating Training

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

Mon., Nov. 21 - Part 1

Tues., Nov. 22 - Part 2

Mon., Nov. 28 – Part 3 Tues., Nov. 29 - Part 4

DECEMBER

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

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

Mon., Dec. 5 - Part 1

Tues., Dec. 6 - Part 2

Mon., Dec. 12 - Part 3

Tues., Dec. 13 - Part 4

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



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.





EDISON





Indoor People

Continued from Page 35

ing or sales," Kelleher said. "My biggest accomplishment so far has been listening to the advice of my executive committee and growing the organization to the 29 contractors we have today."

Her executive committee includes Bobby Grimes of A&G Services, Paul Gosserand of CMC Corporate Solutions, James Sandoval of J&J Air Conditioning, and Brian Martinenza, Jr. of Service Unlimited Inc. Smerz will continue to stay involved with the group in an advisory capacity.

"These owners have been incredibly supportive with the change in ownership," Kelleher said. "They've been instrumental in both guiding the direction of the group and to me personally because I know I always have someone to call if I need advice or help."

"As a member-driven organization, we want to make sure we always offer value to our members and their employees," Smerz said. "Jan is willing and eager to take on that challenge and is going to do a great job moving the association forward."

Kelleher's goals for the future of the association include growing membership to 35-40 contractors, adding more member-facilitated educational programming, and increasing the number of purchasing partners so members see more savings. She also plans to attend the Women in HVACR annual conference later this year to network with other women leaders and seek out additional opportunities for improving The Unified Group and its member experience.



JANET KELLEHER

Hoshizaki America Inc. announced the appointment of **Stephanie Wall** as vice president regional sales, responsible for sales of Hoshizaki products in the USA and Canada.

Wall has over 38 years' experience in the food service equipment industry, including four years as a regional sales manager for Hoshizaki America and most recently as an independent manufacturer's representative regional sales manager.

"With the addition of Stephanie to our team, we further advance our strategy to drive share gain and growth through the acquisition of new customers and channel optimization," said Chris Karssiens, president of Hoshizaki America. "Over the years Stephanie has earned respect in the field though dedication to customer satisfaction and consummate sales management. I am excited for her to join our group of dedicated and talented people that make up Hoshizaki America."



STEPHANIE WALL

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CoolSys has promoted **Fred Stockert** to president of the
CoolSys Commercial and Industrial Solutions division, where he will oversee all businesses serving the company's commercial and industrial customers. In this new role, Stockert will report directly to Chief Operating Officer Chris Schulken.

"Fred has been a part of the CoolSys family for more than 15 years and has proven his leadership abilities within the various roles he has held at the company," Schulken said. "He brings advanced technical and field knowledge from his many years serving the needs of our customers and leading teams at several levels. I'm confident Fred will lead the Commercial and Industrial Division with great success."

Most recently, Stockert was vice president of operations at Coolsys, where he coordinated and led operational initiatives, and supported the company's acquired businesses and market growth activity. Previously, he held numerous leadership positions at Source Refrigeration & HVAC Inc., where he focused on improving business operations



FRED STOCKERT

and profitability in the California region. Earlier in his career, he served in the United States Marine Corps, earning a certificate in avionics and facilities. During his military service, he worked as a work center supervisor and managed the squadron's facilities and support equipment.

"My career at CoolSys has been incredibly rewarding, and I'm looking forward to contributing my experience and skills in a new role where I can empower others to accomplish our goals as a team," Stockert said. "It's an exciting time to be part of the company as it continues to expand its capabilities and market presence across the country."

In addition to Stockert's promotion, Steve Cook was promoted to senior vice president of CoolSys Commercial and Industrial Solutions division, reporting directly to Stockert. In this role, Cook will be responsible for leading operations for the division's most established regions which include the Mountain West, South, and Western regions.

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JOHN SCHNEIDER

Emerson has announced new leadership in its HVACR Technologies and Digital & Connected Technologies business groups.

John Schneider will serve as President of the HVACR Technologies Americas business. Schneider has served in several senior leadership roles within Emerson, including the former Network Power business (now Vertiv) and most recently as the President of Therm-O-Disc (now Sensing & Protection). Schneider holds a Bachelor of Science degree in chemical engineering from The Ohio State University and an MBA from Xavier University.

"Having John in this role will help us to leverage our renowned compression and related solutions expertise across our Americas business," said Brent Schroeder, group president, HVACR Technologies for Emerson. "With his leadership, Emerson will accelerate innovation around critical technologies and integrated solutions that help our OEM customers and end users to address industry trends and the

evolving regulatory landscape."

Vicki Dawkins will replace John Schneider as the president of Sensing & Protection (formerly Therm-O-Disc) in the Digital & Connected Technologies group. Dawkins has held several key positions within Emerson in planning and supply chain before serving as president of Emerson Asia Pacific and most recently as the president of Motors (formerly Hermetic Motors). Dawkins holds a Bachelor of Science degree in electrical engineering from Southern Illinois University Carbondale and an MBA from Southern Illinois University Edwardsville.

"Vicki has a breadth of experience within various Emerson businesses involving software and controls," said John Rhodes, group president, Digital & Connected Technologies for Emerson. "Her deep expertise in these areas will help to drive increased focus and emphasis on connected technologies."

SecureAire Technologies, LLC has named **Ben Rizzo**, a successful entrepreneur and Harvard MBA graduate, as its new Chief Executive Officer.

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SecureAire's leadership team has significantly expanded over the past two years as the COVID pandemic has brought more national focus to indoor air quality and sales of cutting-edge ACTIVE Particle Control Technology have increased. Prior to joining SecureAire, Rizzo founded Hartwood Point a direct private investment firm and was President of Hadfield Elevator LLC.

"Ben Rizzo has an impressive history of helping companies quickly grow their customer base and revenue – we are thrilled to welcome him to the SecureAire team," said Frank Stamatatos, President of SecureAire Technologies. "Rizzo has the vision and experience to lead our continued expansion across the U.S. and help us further capitalize on the growth we've seen over the past two years."

In addition to founding Hartwood Point, Rizzo was President of Hadfield Elevator LLC, where he led the company's transforma-



BEN RIZZO

tional growth and eventual sale to Berkshire Partners owned 3 Phase Elevator. Rizzo previously co-founded Exero Labs where he successfully raised seed funding from angel investors to develop specialized head safety technology and obtain a patent. He began his career as a Production Engineer for Shell

In addition to an MBA from Harvard Business School, Rizzo has received an MS in Technology Commercialization from Texas McCombs School of Business and a BSE in Chemical Engineering from the University of Michigan.

Following a multimillion-dollar capital raise at the end of 2020, SecureAire has made several senior hires, including Dr. Mark Ereth of the Mayo Clinic as Chief Medical Officer, Puneet Sapra as Chief Operating Officer, Kathy Parry as Vice President of Commercial Sales, and Mark Mastroianni as Vice President of Marketing and Communications. SecureAire exceeded its goals over the past year, laying the foundation for further expansion. Rizzo will work alongside SecureAire President Frank Stamatatos to accelerate the company's growth.



JON ZUCKER

Environmental health technology company CASPR Group announced **Jon Zucker** as its president. Zucker joined CASPR in late 2021.

Zucker's goal is to guide CASPR Group into a scalable, sustainable company as it manages increased demand for its proprietary Natural Catalytic Conversion (NCC™) technology. The company's solutions provide healthier indoor air and surface environments across industries including healthcare, education, transportation, and commercial real estate.

"Throughout my time interacting with Jon through the YPO organization, I've seen how his vision is always ahead of the curve and five steps beyond where the market is currently," said CTO and CASPR Inventor Dr. Christophe Suchy. "CASPR's next stage of growth potential becomes exponential when we bring Jon's experience to the company leadership team."

Indoor People

Prior to joining CASPR, Zucker founded and ran the Dialectic Group, an independent, full-service digital agency, delivering digital transformation for brands such as Caesars Corp., MGM, and Lionsgate. Zucker has also held roles in the motion picture and television industry, both as a producer and talent agent at companies such as United Talent Agency and Moresco Productions. He also managed a private equity fund for



independent films.

"In the current state of the pandemic, businesses have to go beyond simple episodic air purification to survive. CASPR's technology is essentially preventive medicine focused on continuous wellness for indoor air and surfaces," Zucker said. "I am excited to lead the company into the next phase of growth and continue with the mission of providing clean air and surfaces to everyone, everywhere."

Zucker's focus goes beyond business: He grew up with an immunocompromised father.

"I've seen firsthand the deleterious effects of airborne pathogens and what they can do. For me, the CASPR mission is also a personal one," Zucker added.

NEW IHACI MEMBERS

- Advanced Air, Visalia, CA
- Advanced Tech 209, Inc., Stockton, CA
- Cephus Landreth, Lancaster, CA
- Manuel Martinez, Norwalk, CA
- Mor Air Inc., Hollywood, CA
- Rivera's Heating & A/C, San Leandro, CA

Electrode Boilers

Continued from Page 25

thermal shock is eliminated. Also, there is no low water danger since the current cannot flow without water," says Presser.

Communities utilizing district heating appreciate the ecofriendly nature of these boilers as well. Without combustion, jet type electrode boilers are clean and emission free. The design also eliminates many environmental issues associated with fuel burning boilers such as fuel fumes, fly ash, and large obtrusive exhaust stacks.

Finally, the electric units are exceptionally quiet compared to fuel fired boilers. Unlike gaspowered burners that throttle like turbine engines almost continually, electric boilers keep operational noise levels

down. Because the loudest boiler component is a circulating pump motor, it is easy to have a conversation next to one without having to raise your

With all the advantages of high output jet type electrode boilers, a growing number of communities are selecting them for district heating.

Presser concludes, "We have spoken to utilities with massive boiler plants that are traditionally stuck feeding steam lines all over major city cores like New York City. In urban centers, they really want to get away from the associated emissions. A large utility has been talking to us about putting a 60 MW steam boiler in the center of Manhattan to replace gas-fired boilers, providing a centralized theme to several buildings."

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