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2023 GUIDE TO HIGH-EFFICIENCY RESIDENTIAL AR CONDITIONING

Also in this issue:

- EGIA EPIC2023 Event Review, p. 28
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- Ruud Warms a Chilly Church, p. 32

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HVAC Intelligence eNEWSLETTER

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>FIRST WORD

BY TERRY MCIVER, EDITOR-IN-CHIEF

Milestones of Note

hree bits of good news arrived recently that I'd like to mention.

Congratulations to Heather Ripley and the team at Ripley PR, celebrating 10 years of service to the home service industry. The agency provides strategic public relations solutions to clients around the world.

Home Services Communications

Ripley founded the Maryville, Tennessee-based PR agency in 2013 after she decided to leverage her experience and success in marketing and PR to create a world-class agency in her own back yard.

"This anniversary not only marks a milestone in Ripley PR's professional existence but commemorates the date when I decided to follow my dreams," Ripley said. "We've seen great achievements and growth throughout the years thanks to the fantastic team we have in place, and we now serve contractors and B2B companies in the skilled trades industry from Georgia to California, and from Virginia to New York. We are proud of our journey and hope to continue to provide success to our clients for many years to come."

Ripley was an assistant buyer for a national department store before she decided to enter communications. She spent the next decade managing PR and marketing campaigns for a variety of companies, including Clockwork Home Services and its three franchise brands, One Hour Heating & Air Conditioning, Benjamin Franklin Plumbing and Mister Sparky. It was at that organization that Ripley first learned how impactful public relations could be to the home service industry.

Ripley continued to work for other organizations throughout the Southeast until 2013, when she decided to come back to her hometown of Maryville and open her own public relations agency. With no clients, Ripley got to work building a PR company that would help home service business owners grow to the next level and achieve their dreams.

Ripley PR also specializes in promoting and growing franchising brands and companies in B2B and construction technology and industrial manufacturing industries.

In 2021, Heather Ripley wrote *Next Level NOW*, with practical advice for succeeding in home services. She has also appeared in the pages of *Contracting Business* (see *bit.ly/valueofpr*).

75 Years for Beckett Corp.

Congratulations are also in order for Beckett Corporation, for hitting the 75-year milestone. Founded in

1948, Beckett is a leader in designing pumps and related products for a wide range of industries and market segments, including HVACR contractors and original equipment manufacturers (OEMs).

"This year marks a historic milestone for all employees at Beckett," said Bill

Arnold, president and CEO of Beckett Corporation, in a press release to industry media. "Our success would not be possible without our amazing team of employees, distribution, contractor, and OEM partners, and loyal customers."

Beckett Corp.'s HVACR offerings include condensate pumps and submersible pumps. Products of interest to OEMs include pumps for ice machines, refrigeration, tile and masonry saws, parts washers, oil skimmers, evaporative coolers and specialized air conditioning equipment.

A new website is part of the celebration. Features of the new site include a new and improved online product catalog; separate sections for HVAC and OEM products; expanded product resources sections with specifications, manuals, videos and more. Find it at *www.beckettus.com*.

"More and more of our customers are seeking information online. We rebuilt and expanded our website to meet the growing demand to easily access Beckett content anywhere, anytime. Distributors, contractors, OEMs, retailers and homeowners should find the new website useful, informative, and engaging," said Arnold.

Quality Brings Longevity

See page 8 for a story on the 30th anniversary of Brandywine Valley Heating & Air Conditioning, cofounded by Bill Ronayne. Brandywine Valley Heating & Air Conditioning provides, "Comfort with Care" for residential and commercial HVAC customers.

"Since we opened our doors in 1993, our company has consistently delivered quality workmanship and outstanding customer service with integrity, honesty and a 100 percent satisfaction guarantee. When we say we care, we mean it and stand behind every job we do, every time," said Ronayne. Watch *CB* for an upcoming story on this company.

Congratulations to these organizations, and best wishes for their continued success. **CB**



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>FROM THE FIELD

COMPILED BY TERRY MCIVER, EDITOR-IN-CHIEF

Brandywine Valley Heating & AC Celebrates 30th Anniversary

WEST CHESTER, Pa.— Brandywine Valley Heating & Air Conditioning, providing quality comfort solutions and service for residential and commercial customers since 1993, is officially celebrating 30 years in business. The company attributes its longevity to their founding core values that address how, as a service provider, they choose to conduct business, while embracing the unquestionable value of customers, employees and the community at large. It's that give and take with the labor or supporting important local fundraisers and events, the company strives to make a difference in West Chester and communities around Chester County and the Main Line. Their community-first approach stems from its leadership and staff who live in the communities and offer their time, energy and financial support to those making a difference. Some organizations and non-profits that have benefited include: Friends Association For the Care & Protection of Children;

community that sources say will ensure more decades of success.

Many companies fill their mission statements with values and vague ethical codes to which they aim to adhere while endeavoring to provide a service. Brandywine Valley Heating & Air Conditioning truly stands upon its core values — always doing the right thing, a superior work ethic, teamwork, and community values — which, in turn, has helped them achieve their last, but not least, value: Customers For Life.

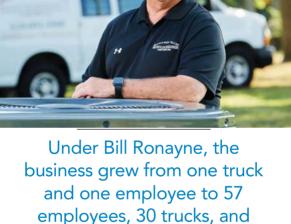
Brandywine specializes in both residential and commercial HVAC. It provides installation, service and repair,

emergency service and Design/Build options for commercial HVAC and custom home construction. The company employs NATE-certified technicians and also has close relationships with significant HVAC brands such as Trane—who entrust the company to donate five units a year in deserving circumstances.

Due to Brandywine's community outreach and care for its customers, 90 percent of its maintenance agreements come from referrals and repeat business.

The Brandywine team attributes its high level of customer loyalty to consistently delivered, quality workmanship and outstanding customer service, integrity, honesty and a "100% satisfaction" guarantee. After each job, salesmen take a walkthrough with the client to make sure they achieved everything they discussed. Brandywine believes that dedicating itself to meeting and exceeding customer expectations generates authentic "word of mouth" referrals.

As for its commitment to civic engagement, whether donating work, reducing its price, helping out with volunteer



\$11 million in annual sales.

Good Works, Inc.; Kennett Symphony of Chester County; St. Agnes; Sts. Simon & Jude; and West Chester Senior Center, to name just a few.

"Saying that you're a part of the community is easy, but showing you care by constantly supporting it is the real measure of a local company," said Bill Ronayne, co-founder and president of Brandywine Valley Heating & Air Conditioning. "I grew up and spent my entire life in this region and am proud to offer our resources in every way that we can for organizations that work to the betterment for the West Chester community."

Brandywine Valley Heating & Air Conditioning opened its

doors in 1993. Ronayne grew up on a farm and has worked from the time he was 14. The company prides itself on being family-owned. Under Ronayne, the business grew from one truck and one employee to 57 employees, 30 trucks, and \$11 million in annual sales.

"If a company claims to offer fairness and the highest possible service, they should be ready to prove it," said Ronayne. "That's why 80 percent of our business is from returning customers and why we have such a low employee turnover rate. All of us are committed to the highest standards of professional service and helping out in the community."

In the rapidly changing, highly competitive HVAC industry, Brandywine aims to keep pace as it has for 30 years. The company looks to stay ahead of the curve through ongoing professional development, to meet and exceed clients' comfort needs.

Brandywine has been the Daily Local News' "Readers' Choice" winner for 14 years in a row, and has received more than 1,400 five-star customer reviews. **CB**

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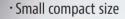




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Johnson Controls Celebrates Extraordinary Women in HVAC for International Women's Day

mployment of HVAC mechanics and installers is projected to grow five percent from 2021 to 2031 with more than 20,000 job openings estimated each year on average over the next decade, according to the Bureau of Labor Statistics. Despite the vast opportunity and ongoing skilled trades labor shortage, women remain significantly underrepresented—only making up 2.3 percent of HVAC mechanics and installers in 2022.

Johnson Controls is actively working to increase the number of women in HVAC through education and initiatives that support gender diversity, including its Women's Global Network and Women in Ops group. The company is committed to building a diverse and inclusive team that will continue to help attract the best talent and drive best-in-class performance of products and services. Part of living out that belief is recognizing the remarkable professionals making a difference in the HVAC industry. In honor of International Women's Day, Johnson Controls is shining a light on three of them.



Bridget Klinke

Bridget Klinke is a persevering leader within the ducted systems business at Johnson Controls, working as a senior manager business systems analyst. She started her career more than 20 years ago at Johnson Controls (York International at the time) as an IT support intern. Today, she leads a

team of highly skilled professionals, including business analysts, software developers, architects and quality assurance analysts. Together, they support web, desktop, and mobile HVAC tools, working in close collaboration to establish, prioritize, test, and meet business and customer requirements. Over the course of her two-decade career, Bridget has witnessed firsthand notable changes in the representation of women at Johnson Controls. "At Johnson Controls, we have taken steps to promote inclusivity and create a supportive environment for all employees," she said. "One of these steps includes establishing business relationship groups specifically for women, which provides valuable resources and support to employees. I am proud to be part of an organization that recognizes and values diverse perspectives and contributions of its employees."

For women considering entering the HVAC field, she believes it's essential to build a robust support system for both your personal and professional life. Joining professional organizations, networking with other women in the industry, and seeking out a mentor can be an excellent way For women considering entering the HVAC field, Bridget believes it's essential to build a robust support system for both your personal and professional life.

to build these relationships and gain support when needed. Secondly, Bridget believes it's crucial to advocate for yourself and speak up when you encounter bias or discrimination. "Don't let anyone make you feel small or marginalized in your role," she said.

"Remember, you have a valuable contribution to make to the industry, and your voice deserves to be heard."

In her free time, Bridget enjoys attending her daughter's swim meets, spending time with family and friends, shopping and traveling.



Nan Gordon

Nan Gordon is a passionate, handson AME manufacturing engineer who started her career at Johnson Controls in 1996 (it was known as York International at the time), working as an entry-level manufacturing line engineer. She worked her way up to senior manufacturing engineer and

has installed or revitalized more than a dozen assembly lines at the Johnson Controls commercial HVAC manufacturing plant in Norman, Oklahoma. She then became the supervisor of the assembly engineers and was heavily involved in Johnson Controls product development. In Nan's current role as project engineer, she focuses on installing assembly lines to support the demand for current products as well as new products being introduced over the next two years at the Norman facility.

Nan has two mentors throughout her career that have truly shaped who she is as an engineer. The first is her current supervisor Rick Canada, who has taught her that no matter the size of the project, it's the attention and care to all the details, regardless of how small they may seem, that make the project successful.

Her second influence was Vicki Davis, who was the first woman in leadership that Nan worked with as she watched Vicki progress from line supervisor to plant manager. "Her example of how to be a strong woman who is respected for her knowledge and leadership has shown me that there are

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>EDITOR'S NOTEBOOK: MANUFACTURER NEWS

Nan Gordon worked her way up to senior manufacturing engineer, and has installed or revitalized more than a dozen assembly lines at the Johnson Controls commercial HVAC manufacturing plant in Norman, Oklahoma.

no limits to what women can achieve in the manufacturing industry," said Nan.

Nan has found that being dismissed or condescended to by male leaders is the biggest challenge she has had to overcome in her career in a predominantly male industry. However, as more female engineers entered into manufacturing, the environment has changed in a positive way that values what women bring to the table. Her advice to other women in the industry is to stand your ground and always speak the truth.

Outside of work, whether the sun is out or not, you can find her outside exercising her passion for gardening.



Regan Axtell

You may have seen Regan Axtell at the 2023 AHR Expo, as she helped bring media and contractors up to date on the latest residential and commercial product offerings from YORK.

Regan Axtell is an engaging and collaborative senior product manager at Johnson Controls that is never afraid to ask questions—something she deems has driven her career success. She works closely with research, engineering, manufacturing and sales teams, as well as customer partners to develop the product road maps for Johnson Controls residential HVAC equipment. This process includes competitive analysis, voice of customer, regulatory compliance, product development, marketing and training with sales and distribution teams to ensure products meet customer demands, and manufacturing timelines and budgets.

Early on in Regan's career, she was fortunate to have a female manager and also works with one today. In both cases, their intelligence, passion, outspokenness and ability to keep cross functional teams engaged and working towards the same goal have helped shape the way she's handled her career. They

Standing tall, eye contact and active listening have given Regan the ability to gain and show respect to the people she's communicating with.

taught her to never stop asking questions. Being a female, and relatively new to the HVAC industry, Regan made it her goal early on to not let either of those two factors get in the way of her career growth and ability to confidently manage a product.

Standing tall, eye contact and active listening have given her the ability to gain and show respect to the people she's communicating with. She's found that operating with confidence and remaining engaged can, in most instances, outweigh any bias towards her gender or experience level. Outside of work, she enjoys reading and spending time with her family traveling, boating and watching her kids at their activities. **CB**

American Standard Seeks Nominations

American Standard Heating and Air Conditioning is accepting nominations for the brand's sixth annual *Building a Higher Standard Awards*, a prestigious honor recognizing the brand's distinguished, independent dealers from across the country, who exemplify the brand's core values by exhibiting a high level of integrity, teamwork, community service and a focus on continuous improvement in the pursuit of excellence. Every year, American Standard recognizes four dealers for how well they embody American Standard's brand values with the winners receiving national recognition in the major trade publications as well as local advertising support to help build their business. They also win a trophy and an awards celebration for all their employees. If you are a distributor with an outstanding American Standard HVAC dealer, tell us exactly why they are the best of the best, sharing their stories with specific examples, so we can really understand what sets them apart. For example, instead of saying they are generous in their

community, tell us how they hand out toiletries directly to the homeless. For more information, and to fill out the nomination form in its entirety, visit *https://nominations.amsd.us/.*

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>EDITOR'S NOTEBOOK: PRODUCTS

HOME COMFORT

In March, Mitsubishi officially announced the introduction of the intelli-HEAT[™] Dual Fuel System. This new Mitsubishi Electric solution is compatible with any thermostatically controlled furnace[1] and works with both single-zone and multi-zone systems. intelli-HEAT empowers homeowners who own gas furnaces to improve their homes' comfort and sustainability by using an energy-efficient, all-electric heat pump as their primary heating source. The furnace remains available to the homeowner as a heating source for extreme cold conditions.



This new Mitsubishi Electric solution is compatible with any thermostatically controlled furnace.

intelli-HEAT offers homeowners the benefit of consistent year-round comfort thanks to its INVERTER-driven compressor technology. Homes with an existing furnace[1], with or without an existing air-conditioning system, can use the intelli-HEAT system for cooling during warmer

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Combustion Analyzers



Fieldpiece Instruments, the leading manufacturer of professional-grade tools for HVACR pros by HVACR pros, has launched two new combustion analyzer models, with compatible printers sold separately or bundled together. The Fieldpiece Combustion

Analyzers, CAT85 and CAT45, enable HVACR professionals to assess heating system emissions, draft pressure, and temperatures to support the overall fuel-efficiency and safety of furnaces. These new combustion analyzer models make analysis easier and more effective with a large touchscreen display interface delivering effortless readings. *www.fieldpiece.com/combustionanalyzer*



Mitsubishi intelli-HEAT™ (shown here installed atop a furnace) works seamlessly with existing furnaces.

months. The all-electric heating is operational while outdoor temperatures are as low as -13° F using the system's Hyper-Heating INVERTER* (H2i*) technology.

During periods of extreme cold, intelli-HEAT may switch to the gas furnace as needed based on capacity threshold and economic balance points. The intelligent

switchover function built into the control box of the intelli-HEAT system coordinates operation of the furnace and the Mitsubishi Electric heat pump. This smart heating management is designed to result in lower gas usage and reduced greenhouse gas emissions while providing homeowner comfort. *mitsubishicomfort.com*

FANS

Greenheck's new model BAER belt drive sidewall propeller

fan is designed for expanded performance and improved efficiency in wall-mounted clean air applications. The BAER features cast aluminum airfoil blades and hubs, an AC induction motor, and an automatic belt-tensioning system that minimizes regular maintenance of the fan belt. The automatic belt-



tensioner will adjust tension as the belt wears, easily doubling the life of the belt while maximizing the life of the fan and motor. Fan efficiency is also improved as proper belt tension minimizes drive loss. Model BAER is available in exhaust configurations with propeller diameters from 24 to 36 inches, and performance capabilities from 300 to 33,000 cfm and up to 3.3 in. wg.

A full range of sidewall accessories is also available. *greenheck.com*

FITTINGS

NIBCO INC. expands its Wrot Racer[®] push fittings to include new configurations such as reducing and repair tees and couplings, additional sizes of male and female thread adapters, thread elbows and caps with drains.



School Has IAQ, Ceiling Upgrades

To ascertain the quality of its indoor environmental quality (IEQ), the Panther Valley Elementary School in Nesquehoning, PA recently placed AWAIR indoor environmental sensors throughout the school. The sensors measure seven key IEQ factors: temperature, humidity, CO_2 , volatile organic compounds (VOC), particulate matter (PM2.5), noise, and light.

During initial monitoring, the overall indoor environmental AWAIR scores moved between fair and good, averaging in the low 80's. Air quality issues identified as primary areas of concern were ventilation rates and light levels. Secondary areas of concern included CO₂ thresholds, noise, and thermal comfort levels.

Ceilings Replaced in Classroom, Nurse's Office

To help address these concerns, the school replaced the ceilings in a 780-square-foot third-grade classroom and a 450-square-foot nurse's office. Built in the 1980's, the classroom houses 27-32 students and is in use nearly eight hours a day.

Ultima[®] high light reflecting ceiling panels from Armstrong Ceiling & Wall Solutions were installed in both spaces. The smooth-textured panels with a non-directional visual are both washable and impact-and-scratch-resistant.

An in-ceiling Armstrong StrataClean IQ™ Air Filtration System.

In-Ceiling Air Purification Systems Installed

An in-ceiling Armstrong StrataClean IQ[™] Air Filtration System was also installed in the classroom to improve indoor air quality. The system captures and removes 90% of airborne contaminants, allergens, and other particulates using proven MERV 13 filtration.

An internal fan draws air through one side of the grille. The air then moves through a MERV 13 filter and discharges back into the space through the opposite side. One unit can filter the air in a 1,000 square foot space every hour. With the fan running, air in the occupied space is constantly filtered to provide clean, purified air.

Panther Valley Elementary has no, or a limited, HVAC system. As a result, air changes per hour (ACH) in the classroom were only .5 ACH. Following installation of the StrataClean unit, ACH increased to 1.5 ACH. Increasing ACH helps reduce exposure to airborne contaminants. In addition, particulate matter and $\rm CO_2$ levels decreased.

In-Ceiling UV System Installed in Nurse's Office

In addition, an in-ceiling Armstrong VidaShield UV24[™] air purification system was installed in the nurse's office. This unit operates by continuously drawing air into a self-contained chamber in the ceiling plenum where the air is treated safely with ultraviolet light air-cleaning technology. The cleaner, disinfected air then circulates back into the room reducing occupant exposure to viruses and bacteria.

Third party testing shows this system neutralizes 97 percent of infectious pathogens on the first pass of air through the system. This contributes to healthier spaces by minimizing allergy and asthma triggers and by reducing the level of other infectious pathogens in the air and the settling of those pathogens onto room surfaces.

Improved Lighting and Acoustics

The new ceiling panels provided improved lighting as well. Estimated light reflectance value of the existing ceiling was in the 40 - 60 range, while the Ultima ceiling panels have a light reflectance of 88.

By upgrading to Ultima ceiling tile and new LED light fixtures, light levels more than doubled, from 116 to 253 lux. Improved light reflectance brightens spaces, maximizes light, and enhances visual comfort by reducing eye strain and glare. Room acoustics were also improved. *bit.ly/armstrongstrataclean*



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>EDITOR'S NOTEBOOK: PRODUCTS

The Wrot Racer line is designed to join copper, CPVC-CTS, PEX and PE-RT (with stiffeners) for easy transitions between piping systems. Featuring a patented fitting design, installations are easily made within seconds. Wrot Racer push fittings are manufactured in the U.S. of 99.9 percent pure wrot copper. Naturally lead free, the fittings feature antimicrobial properties and zero dezincification, providing for safe, clean drinking water connections for both residential and commercial applications.

Available in 1/2" to 1" sizes, the lightweight and compact Wrot Racer fittings are able to be installed wet or dry and can handle applications up to 200 psi and 200 degrees. The new fittings feature stainless steel gripper rings to ensure a secure connection. Wrot Racer fittings are ideal for tightspace installations and can also be removed and reused, avoiding wasted materials.

Manufactured from recyclable materials, Wrot Racer fittings are environmentally green and meet a variety of certifications and standards including ANSI/NSF 14, 61, 372 and ASSE 1061.

For more information, visit www.nibco.com/wrotracer

THERMOSTATS

Lennox Industries in January announced the latest additions to its suite of smart products with the launch of

HydroData Multimeter®

0-250 PSI Gage & Differential Pressures Associated High Side & Low Side Pressures -67 to 250 °F Temperature

100 Reading Memory with Sequential Recall English & Metric, Auto-Read



Shortridge Instruments, Inc. 7855 E. Redfield Road Scottsdale, AZ 85260 480-991-6744 Fax: 480-443-1267 www.shortridge.com



the Lennox S40 Smart Thermostat and accessories, including the Lennox Smart Air Quality Monitor and the Lennox Smart Room Sensor.

According to Lennox, 82 percent of homeown-

ers have said they are making good air quality a priority now, compared to one year ago, according to a survey commissioned by 4Media Group on behalf of Lennox Industries in November 2022. To achieve the most perfect air, the Lennox S40 Smart Thermostat detects air pollutants, and customizes comfort room-by-room, in addition to providing maintenance reminders and service alerts.

The suite of technologically advanced smart accessories launching alongside the S40 Smart Thermostat – the Lennox Smart Air Quality Monitor and the Lennox Lennox S40And Accessories

The Lennox S40 Smart Thermostat and accessories were made available in March 2023.

The Smart Air Quality Monitor detects and tracks particulates, carbon dioxide and volatile organic compounds (TVOC's) inside the home. When poor-quality air is detected, it triggers the system to circulate and clean the air to ensure the healthiest air possible. The monitor is the only one on the market that enables on-demand ventilation, purification and filtration based on real-time air quality readings. The Smart Room Sensor provides accurate temperature and humidity readings to the S40 Smart Thermostat and tells it how to balance temperatures across the rooms where the sensor is placed. When a room is in use, occupancy sensors keep the set temperature. When it's not, the sensors revert to a more energy-efficient temperature. *Lennox.com/Residential*

Cielo Breez Max by Cielo WiGle is described as the industry's first true smart thermostat for mini-split, window, and portable air conditioners. It is loaded with next-gen features and takes a giant leap in the HVAC industry with its AI-based "Comfy Max" mode which reportedly offers a true thermostat-like smart experience for all ductless air conditioners. It was named the AHR Expo Product of the Year at AHR Expo 2023. *cielowigle.com*





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- Both Heat Pump and Heat Recovery operation available from one unit
- Increased number of connectable indoor units
- Extended ambient air temperature operating range from -15°F to 126°F
- Intelligent refrigerant control optimizes individual zone comfort



Unified VRF outdoor units allow for heat pump or heat recovery operation for the ultimate in application flexibility.

35



Learn more about the advantages of the AIRSTAGE VU-V



2023 GUIDE TO HIGH-EFFICIENCY RESIDENTIAL BAR DODD TO DODD TOD

Amana

New Amana® brand S-series split-system air conditioners and heat pumps are engineered for traditional ducted applications with heat pump, gas furnace or dual fuel connectivity. Easy to transport and install—requiring just 4-in. of clearance—Sseries are ideal for small backyards and zero-lot-line applications. Outdoor units run as quietly as 56dB(A).

Available in 1.5-5 tons, Amana brand S-series can use existing line sets and connect up to 100-ft. of pipe (for typical installations). Side discharge and pad or wall mounting solves innumerable installation challenges.



High-performing inverter compressors deliver excellent efficiencies, reaching 17.2 SEER2 and 8.5 HSPF2. Forwardthinking features include Blue Fin corrosion coating to help keep the coil clean; a 1,000-hour salt-spray-rated coil; and advanced, water-shedding drain pan. Three humidification levels allow customizing based on humidity levels and regions. Quiet mode enhances acoustical comfort indoors.

Compatible with the new Amana brand smart thermostat for customized indoor comfort. Backed by a Lifetime Unit Replacement Limited Warranty and 10-Year Parts Limited Warranty. **Amana-hac.com**

American Standard

The new American Standard Heating and Air Conditioning Platinum 20 heat pump contains the new Link technology that ensures more efficient installs and additional monitoring capabilities.

With this innovative system, technicians can leave their gauges and probes on the truck. Using the new American Standard Diagnostics mobile app to access American Standard Link's built-in system sensors, they can easily and conveniently configure or diagnose a system from their smartphone or tablet.

By combining detailed information and monitoring, American Standard Link raises the bar on what dealers and their customers can expect from American Standard—now building variable speed systems to an even higher standard.

American Standard Link can run and verify each mode of operation as well as verify the overall system is functioning



properly. This automatic verification provides two reports—a detailed Dealer Verification Report and a summarized Homeowner System Report, providing peace of mind to the customer. *americanstandardair.com*

Bryant

With Bryant's ENERGY STAR® qualified two-stage Preferred[™] central air conditioner with InteliSense[™] Technology, homeowners can cut their utility bills while still enjoying reliable wholehome comfort. Up to 17.5 SEER2 and 13.5 SEER2 ratings deliver energy efficient operation and summer humidity control that's as quiet. Two-stage operation allows longer more consistent cycles on low stage for



energy savings and enhanced comfort. Available in 2-to 5-ton sizes, the 127T uses Bryant's Puron® refrigerant which does not contribute to ozone depletion.

InteliSense[™] Technology is the next phase in Bryant's growing family of connected, innovative solutions. InteliSense's connected premium tools offer easier maintenance and empowered customer service. Sensor data from the outdoor and indoor equipment connects to Wi-Fi enabled ecobee for a Bryant thermostat. System data collected can be accessed by dealers through the Bryant Service Tech App and Bryant Connected Portal for remote troubleshooting, system usage

Some entries may have been edited for space considerations. Product performance claims are by each brand.

analysis and servicing. www.bryant.com/en/us/products/ air-conditioners/127t/

Carrier

Carrier Performance[™] Series two-stage air conditioner features a unique welded aluminum coil technology, a first for residential outdoor products. It provides enhanced corrosion resistance while delivering improved energy efficiency. In addition, the two-speed compressor offers homeowners added benefits like higher efficiency and



even, consistent comfort. When installed with a custom-matched Carrier indoor furnace or fan coil and a Carrier compatible thermostat, Carrier's two-stage air conditioners can operate on low-stage up to 80 percent of the time to keep airflow and temperatures even and consistent while adding humidity control during cooling operation. As a result, this system can deliver enhanced comfort and reduced energy use compared to standard systems with 2023 M1 test compliant ratings up to 17.5 SEER2.

InteliSense[™] Technology is the next phase in our growing family of connected, innovative solutions. InteliSense's connected premium tools offer easier maintenance and empowered customer service. Sensor data from the outdoor and indoor equipment connects to Wi-Fi enabled ecobee for Carrier thermostat. System data collected can be accessed by dealers through the Carrier Service Tech App and Carrier Connected Portal for remote troubleshooting, system usage analysis and servicing. The future of smart HVAC is here. www. carrier.com/residential/en/us/products/air-conditioners/

Daikin

Transformational Daikin *Fit* inverter split systems with ducted gas furnace, heat pump or dual fuel connect ductless-style performance to traditional ducted systems. Far smaller, lighter and quieter than traditional unitary condensing units, Daikin *Fit* outdoor units require only 4" of clearance—providing unparalleled installation flexibility for challenging projects.

Reaching up to 8.5 HSPF2 and 17.5 SEER2, Daikin *Fit* delivers an energy-efficient, cost-competitive system with cooling capacity up to 54,000 BTU/h. Inverter-driven outdoor compressors with side discharge deliver remarkably quiet sound levels as low as 55 dB(A).

Daikin *Fit* is controlled by the Daikin *One+* or the new Daikin *One* touch smart thermostats—the first to offer full, two-way



communications with Daikin HVAC systems—featuring Daikin One ecosystem IAQ modules, giving consumers control over the air they breathe. Daikin One smart thermostats and Daikin One home air monitors "Visualize The Air". Daikin Fit, available from 1.5-5 tons, is compatible with Daikin's communicating evaporator coils and gas furnaces. *daikinfit.com*

With extraordinary cooling efficiencies up 27.4 SEER, the singlezone, ductless Daikin ATMOSPHERA features R-32, with one-third the global warming potential of USA's and Canada's most-used refrigerants. A pure, single-component refrigerant, R-32 is easy to top off, clean and reuse onsite – or reclaim and recycle. Perfect for spot cooling/heating needs even in extreme



ambient temperatures, Daikin ATMOSPHERA provides up to 100 percent rated cooling capacity at 104F and up to 13.8 HSPF, with up to 100 percent rated heating capacity at 5F and confirmed continuous operation as low as -13F. *daikinatmosphera.com*

Friedrich

For those who want the sustainability and energy savings benefits of a heat pump, without a large, centralized system, Friedrich Air Conditioning offers Kühl®, the only room air conditioner with heat pump technology available on the



market. As the only commercial-grade room air conditioners, Kühl units are quiet and powerful, with larger models capable of producing up to 24,000 BTUs (cool only up to 35,000 BTUs). That makes Friedrich Kühl an outstanding all-season window room AC solution, helping save up to three times more money on energy bills. Friedrich Kühl is also available in lower-global warming potential (GWP) R-32 refrigerant models which comply with California's state regulations (CARB). Kühl's integrated "Smart Control" through the FriedrichCONNECT® app is energy management designed for commercial applications with BMS-like grouping, as well as connectivity with smart home/voice command devices, to deliver the ultimate in anytime, anywhere comfort and convenience. https://info.friedrich.com/kuhl

Friedrich Floating Air[®] ductless offers three exceptional lines of heat pump models with unique features to meet every need, and all with the performance and value you expect

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from Friedrich. Our revolutionary FastPro® design (available on Premier & Pro wall-mounted options), allows technicians to remove the entire blower wheel assembly in minutes, reducing installation, cleaning, and service time by up to 50 percent. For total installation flexibility, Floating Air comes in single and multi-zone with indoor options available in a sleek wall mount, a discrete ceiling cassette, or our Insider® —an inconspicuous concealed duct unit. With mix-and-match configurations of up to 5 zones, the possibilities are endless. Whether you are looking for simple installation, high efficiencies, extreme climate solutions (low ambient heating down to -13F), low voltage options (115V), indoor air quality accessories, or integrated smart home control, Friedrich Floating Air Ductless has the right product for you. https://info.friedrich.com/ ductless-mini-split

Fujitsu

Fujitsu General America's multi-position air handler units are now compatible with the company's XLTH (extra low temperature heating) outdoor units, which provide heating capacity at outdoor temperatures as low as -15F.

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

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



A variety of optional accessories are available, including WiFi capability. *FujitsuGeneral.com*

GE Appliances Air & Water Solutions

Designed to be pro-centric from sale to service, GE Appliances offers a range of heat pumps for cold climates and feature single-stage and inverter compressor options with SEER2 ratings up to 22. The products fully comply with national regulatory changes that went into effect in January 2023. GE Heat Pumps make



it easier to do the job with durable 45-degree service valves, use of standard 5/16" and 1/4" screws, removable wire fan guards and 24V thermostat compatibility. Quiet operation, inverter technology, anti-corrosion coils, optimal airflow and ten-year warranties with registration make it easier to close the sale. The company also offers on-demand, in-the-field support channels. *geappliancesairandwater.com*

Goodman

Featuring highly efficient, affordable performance up to 22.5 SEER2 and 8.2 HSPF2, the new Goodman® brand GSX/ZV9 air conditioner or heat pump provides homeowners and contractors with multiple benefitsthanks to inverterdriven technology and convenient service features. Homeowners



can enjoy satisfying levels of acoustic and indoor comfort. Inverter technology allows operation at lower sound levels, while helping prevent common temperature swings experienced with non-inverter, single- and two-stage units. Inverter systems can maintain comfort levels more efficiently under part-load conditions compared to non-inverter systems, while continually dehumidifying the home.

ComfortBridge™ compatible for easy commissioning, diagnostics and servicing via CoolCloud™ mobile application; Goodman control algorithmic logic; diagnostic indicator lights, seven-segment LED display, fault-code storage; coil/ambient temperature sensors; and a suction pressure transducer (in cooling mode). Top/side maintenance access is provided, plus sweat connection service valves, with easy gauge-port access. Backed by a 10-year parts limited warranty, Goodman GSX/ ZV9 systems are designed, engineered and assembled in the USA. goodmanmfg.com



Now Available **Low-GWP Refrigerants Certification Exam**



The Industry's Refrigerant Certification



HNICIAN EXCELLENCE

Study Guide Available in the NATE Online Store

WWW.NATEX.ORG

Gree

Multi21+ multi-zone ductless systems are a versatile HVAC solution to heat and cool multiple locations throughout your



home. These ductless mini-splits can save the customer money, reduce noise and allows them to keep the entire home at a consistent temperature, as well as the flexibility to adjust the temperature for each zone. Many features include: G10 inverter technology, multiple fan speeds, swing louver control, eco-friendly R410A refrigerant, washable, polymeric air filters, remote and wired controller options, and automatic voltage adaption. *greecomfort.com*

Lennox

The Lennox SL28XCV Air Conditioner is the most precise and efficient air conditioner available. It delivers an efficiency rating of up to 25.80 SEER2 and is one of the Most Efficient ENERGY STAR[®] certified products in 2022. Part of the Dave Lennox Signature[®] Collection and the Ultimate Comfort System™, it combines the best of everything Lennox has to offer to create an unprecedented wholehome comfort system. Precise Comfort® technology adjusts cooling output in precise



increments matching energy use with comfort. When installed with the Lennox S40 Smart Thermostat, the SL28XCV uses sensors to react, diagnose and troubleshoot—while remaining in constant contact with the installing dealer to ensure proactive responses. The SilentComfort[™] fan guard delivers a sound rating as low as 56 dB, and the proprietary Quantum[™] Coil can weather the harshest elements. This technology and industry-leading efficiency ensure the ultimate level of comfort, durability and quiet for homeowners.

Lennox.com

LG

The LG Multi-Position Vertical Air Handler Unit with LGRED° (Reliable to Extreme Degrees) is designed to operate in vertical up flow, down flow (requires conversion kit sold separately), horizontal left, and horizontal right configurations.



Systems with LGRED° Heat Technology provide 100 percent rated heat capacity down to 5°F with continuous heating operations to -13°F. This increased performance not only delivers heat without the reliance on fossil fuel energy sources but also operates with incredible efficiency even in the coldest climates. Single zone systems with LGRED° technology include several ducted styles to bring powerful heating to an entire home. Additionally, single-zone Vertical Air Handler Units are ENERGY STAR® rated and offer a clean energy alternative to boilers and furnaces. It's also compatible with the LG ThinQ app.

LG's Multi-Position Vertical Air Handler Unit with LGRED° enables homeowners to utilize an inverter heat pump with ducted air handler solution as the primary source of heating and cooling in one system without relying on fossil fuels. Ighvac.com

Mitsubishi Electric Trane HVAC US

Premier wall-mounted indoor units (MSZ-GS and MSY-GS) from Mitsubishi Electric Trane HVAC US can heat or cool any residential room or light commercial space. They fit seamlessly into any décor and provide reliable and efficient comfort.

Hyper-Heating INVERTER[®] (H2i[®]) models in 9 to 24 KBTU/H capacities will be available with hyper-heating technology, offering 100% heating capacity at 5° F with guaranteed heating capacity to -13F.

Dual Barrier Coating—Mitsubishi Electric's patented technology reduces maintenance requirements by limiting the buildup of dust, fibers, oil and smoke on system components resulting in a cleaner environment and maintaining the units' high-efficiency levels.

Enhanced Filtration—Optional particulate matter (PM) 2.5 filter is designed to remove particulates with a diameter of less than 2.5 micrometers.

Hyper Dry™ Mode provides improved moisture removal without overcooling the space.

Available in 6-, 9-, 12-, 15-, 18- and 24-KBTU/H capacities. *mitsubishicomfort.com*

Oxbox

The Oxbox line of DOE 2023 compliant cooling products provide homeowners with flexible and affordable options to meet their HVAC equipment needs. Oxbox air conditioners operate quietly with a 10-speed variable speed outdoor fan motor and have been tested to perform in the hottest climates.



These dependable models are available in 13.4 SEER2 (Northern Region) and 14.3 SEER2 (Southern Region) that achieve a 15.2 SEER2 rating by matching the J4AC5 outdoor unit with a high efficiency Oxbox indoor unit. The units have galvanized steel painted

cabinets that resist rust and stand up to weather. With 1.5–5.0 ton models available, the compact design and small footprint is ideal for homeowners with limited yard space. Furthermore, every piece of equipment is warranted to the home and not the homeowner to provide an extra measure of coverage. **oxboxhvac.com**

Rheem

The EcoNet[®] enabled Rheem Endeavor line Prestige Series RP18AZ is ENERGY STAR[®] certified line of Heat Pumps, offering one of the highest efficiencies available today. One of its most unique benefits is its cooling efficiency of 20 SEER2 / 12.5 EER2 which helps keep the consumer's utility bills low and their home consistently comfortable.

The RP18AZ heat pumps are designed with acoustics in mind. The units feature integrated sound-dampening elements such as a unique refrigerant tubing design, swept wing fan technology, composite base pan and innovative compressor and drive technologies to ensure that as efficiency goes up, sound levels stay low. The RP18AZ has a sound ranking as low as 58 dB.



Additionally, the units include smart features such as Rheem's exclusive PlusOne® technologies including:

- PlusOne[®] Diagnostics: Bluetooth technology that aids in quick & easy service.
- PlusOne[®] Expanded Valve Space: Provides a minimum working area of 27-square inches for the installer's comfortability.
- PlusOne® Triple Service Access: 15 in. wide industryleading corner service access, two-fastener removable corner and easily removable individual louver panels to help the installation job.

Other key components include inverter-driven, variable speed compressor technology features cooling operation between 40 percent and 100 percent of capacity (with overdrive capability up to 115 percent in extreme conditions) to continuously meet users changing needs.

For peace of mind, the units come with a warranty of— 10 Year Parts + 10 Year of Conditional Unit Replacement. **rheem.com**

Ruud



The Endeavor line RGEAZR is a Residential Packaged Gas Electric product with a cooling efficiency of 20 SEER2 / 12.5 EER2 and cooling capacities of 22.8 kBTU to 56 kBTU. Its micro-channel refrigerant system uses up to 58% less refrigerant than other models for superior heat transfer capabilities and better performance. Micro channel evaporator and condenser delivers superior performance with less refrigerant charge and less weight than conventional copper tube/aluminum fin coils.

Contractors can be assured of hassle-free install as the units have convertible airflow, which makes converting to a downflow configuration easy and it also has zero-clearance capability to simplify space-constrained installations. It also provides homeowners peace of mind with safety features such as direct spark ignition with remote flame sensing.

The serviceability component also increases the efficiency of this product. Copper refrigerant connections create a reliable and familiar brazed joint. Externally mounted refrigerant gauge ports offer easy service access for service diagnostics and slide-out blowers make product removal a snap.

For curb appeal and durability, the unit features curved louvered panels and rugged corner posts to protect internal components, while corrosion-resistant composite base pans and a powder coat paint create a modern cabinet aesthetic.

Ruud's high-quality units are also backed with an industry leading warranty of— 10 Year Parts + 10 Year Conditional Unit Replacement. *ruud.com*

Samsung

Samsung's exclusive WindFree™* Cooling technology provides end-users with a cool indoor climate and optimal energy efficiency without the discomfort of direct cold airflow. The latest mini split lineup includes the WindFree™* 3.0, 3.0e and 3.0i. All models utilize the new Freeze Wash function that will freeze, thaw, then dry the evaporator coil to wash away dust and other airborne contaminants. In addition, the WindFree™* 3.0i features a PM 1.0 filter that captures ultrafine dust particles up to 0.3µm in size and will display the air cleanliness status.

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The systems are also Wi-Fi enabled allowing voice control with Bixby 2.0 and other popular voice control products 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 indoor unit model numbers are compatible with Samsung's residential single-zone and Free Joint Multi (FJM) multi-zone systems to simplify Samsung's product portfolio and reducing the overall number of SKUs to manage. *samsunghvac.com*

*The WindFree™ unit delivers an air current that is under 0.15 m/s while in WindFree™ mode. Air velocity that is below 0.15 m/s is considered "still air" as defined by ASHRAE 55-2013 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

Available for download on the Google™ Play store and App Store®. A network connection is required. Samsung application account is necessary.

Bixby voice recognizes English (U.S.), Mandarin Chinese and Korean. Not all accents, dialects, and expressions are recognized. The list of features that can be controlled by voice command via Bixby will continue to expand. Mobile functionality compatible with Samsung Galaxy 8 series or higher with Bixby function. Samsung Account login and data network (Wi-Fi or internet connection) required to fully operate Bixby features.

Trane

Trane Residential's TAMX Air Handler—as part of the new Trane Link system—delivers next level technology to simplify installation while providing the reliability that Trane is known for.



Trane Link systems are built to be "plug and play." Once the technician has connected the outdoor unit, indoor unit, system controller and smart thermostat, they simply need to turn on the system. The equipment will communicate and configure the system automatically to default settings.

> Through the newest addition of Trane Link, The Trane Diagnostics mobile app enables fast, convenient system setup alongside Bluetooth mesh; enabling the technician to connect to all pieces of equipment from almost anywhere in or around the home.

With a variable speed blower motor and state-of-theart variable speed technology, you can trust your Trane Link® Communicating air handler is always delivering the comfort you need, exactly when you need it. **trane.com**

York

The YORK[®] YH2F 15.2 SEER2 1- and 2-stage heat pump is engineered for year-round comfort and energy efficiency. Two-stage operation on 2–5-ton equipment provides a step up in efficiency and performance compared to single-stage



equipment. Units are designed to be matched with YORK® indoor coils, furnaces and air handlers to create a complete solution that includes dual-fuel heating, which automatically selects the most energy-efficient source of heat based on the current outside conditions and the occupant's needs. Additional humidifiers, dehumidifiers, air filters and ultraviolet (UV) air purifiers are available to enhance indoor air quality (IAQ) and reduce airborne allergens, bacteria and viruses. YH2F units are backed by the Good Housekeeping Seal, meet ENERGY STAR®/CEE Tier 1 efficiency requirements and are eligible for tax credits and other savings incentives through the Inflation Reduction Act and other programs. With registration, YH2F heat pumps are backed by the manufacturer with 10-year compressor and 10-year parts limited warranties. *york.com*

Arcoaire

The Arcoaire[®] HVA9 lon™ 19 air conditioner with SmartSense™ Technology offers high-efficiency five-stage

variable-speed technology, precise system control with remote access (requires Wi-Fi® connection and mobile app), and textbased diagnostics in a compact design. This unit achieves an efficiency rating up to 19 SEER.

The Arcoaire HVA9 lon™ 19 is designed to operate at lower speeds most of the time with its variablespeed compressor and compact ECM fan motor. SmartSense™ Technology provides a soft start and a smooth ramp-up to operating speeds. For quieter operation (as low



as 56 decibels), the cabinet includes isolation compressor grommets and a high-performance compressor sound shield.

To the original purchaser, the Arcoaire HVA9 Ion[™] 19 has a 10-year No Hassle Replacement[™] limited warranty (compressor and condenser coil failure only). It also has a tenyear parts limited warranty, including compressor and coil, with timely registration (except where restricted by jurisdiction; see warranty certificate for details and restrictions). Arcoaire.com

Comfortmaker

The Comfortmaker[®] N4A7T Performance 17 split-system air conditioner is built for performance and affordability. It is ENERGY STAR® qualified with cooling efficiencies up to 17.5 SEER2 (18.0 SEER) and 13.5 EER2 (14.5 EER). The Comfortmaker N4A7T

Performance 17 has a

two-stage scroll compressor



for superior temperature and humidity control. Models are available in 2- to 5-ton sizes for application flexibility.

This model is easy to service with external high and low refrigerant service ports and its easily accessible control panel and service valves. A filter-drier is supplied with every unit for easy field installation.

The Comfortmaker N4A7T is equipped with new welded aluminum outdoor coil technology to help improve corrosion resistance while satisfying future performance requirements. Galvanized steel construction protects the unit against extreme weather.

The Comfortmaker N4A7T Performance 17 has a 10-year parts limited warranty (including compressor and coil) to original purchaser with timely registration (see warranty certificate for details and restrictions). Comfortmaker.com

Dav & Night

The Day & Night[®] CVA9 Ion[™] 19 air conditioner with SmartSense[™] Technology offers high-efficiency five-stage

variable-speed technolog precise system control wit remote access (requires Wi-Fi[®] connection and mobile app), and textbased diagnostics in a compact design. It also achieves an efficiency rating up to 19 SEER.

With its variablespeed compressor and compact ECM fan motor, the Day & Night[®] CVA9 Ion™ 19 is designed to operate at lower speeds most of the time. A soft start and a smooth ramp-up to operating speeds are provided by SmartSense™ Technology. Cabinet



includes isolation compressor grommets and a highperformance compressor sound shield for guieter operation (as low as 56 decibels).

To the original purchaser, the Day & Night CVA9 Ion™ 19 has a ten-year No Hassle Replacement[™] limited warranty (compressor and condenser coil failure only). It also has a 10year parts limited warranty, including compressor and coil, with timely registration (except where restricted by jurisdiction; see warranty certificate for details and restrictions). DayandNightComfort.com

Heil

The Heil[®] H4A7T Ion[™] 17 split-system air conditioner is ENERGY STAR[®]-qualified with cooling efficiencies up to 17.5 SEER2 (18.0 SEER) and 13.5 EER2 (14.5 EER). It has Wi-Fi enabled remote access and complete system communication when paired with the Ion™ System Control. Available in 2- to 5-ton sizes, the Heil H4A7T Ion™ 17 also has a two-stage scroll compressor for superior temperature and humidity control.

It is easy to service with external high/low refrigerant service ports, an accessible control panel, and service valves. A filterdrier is supplied with every unit for easy field installation.

The Heil H4A7T is equipped with new welded aluminum outdoor coil technology to

help improve corrosion resistance while satisfying future performance requirements. Galvanized steel construction protects the unit against extreme weather.

To the original purchaser, the Heil H4A7T Ion™ 17 has a tenyear No Hassle Replacement™ limited warranty (compressor and



condenser coil failure

only). It also has a 10-year parts limited warranty, including compressor and coil, with timely registration (except where restricted by jurisdiction; see warranty certificate for details and restrictions). Heil-HVAC.com

Keeprite

ENERGY STAR®qualified with cooling efficiencies up to 17.5 SEER2 (18.0 SEER) and 13.5 EER2 (14.5 EER), the KeepRite[®] N4A7T Performance 17 split-system air conditioner is built for performance and affordability. Available in 2- to 5-ton sizes for application flexibility, the KeepRite® N4A7T



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Performance 17 has a two-stage scroll compressor for superior temperature and humidity control.

Serviceability features include external high and low refrigerant service ports, an easily accessible control panel, and service valves. A filter-drier is supplied with every unit for easy field installation.

To help improve corrosion resistance while satisfying future performance

ARKEMA

requirements, the KeepRite® N4A7T is equipped with new welded aluminum outdoor coil technology. Galvanized steel construction protects the unit against extreme weather.

The KeepRite N4A7T Performance 17 has a 10-year parts limited warranty (including compressor and coil) to original purchaser with timely registration (see warranty certificate for details and restrictions). *KeepRite.com*

Nortek GlobalHVAC

NGH has relaunched its flagship inverter-driven iQ Drive® products in response to new regulatory requirements and tax credits.



For nearly 20 years, the iQ Drive product line has delivered efficient operation to homeowners. and easy-toservice features to the contractor These models use an inverter-driven Samsung® rotary compressor to optimize operation and modulate comfort levels. The modulating operation helps reduce

pr op an lat lev mo

energy consumption and ensures homeowners minimize utility bills.

After conducting voice-of-customer sessions, the NGH team determined side panels need to be easy to remove during clean and check appointments, so each panel was designed to be removed individually to reduce job time and save money. In addition to our panel design, we incorporated an easy-to-read control board to make installation, servicing, and troubleshooting as easy as possible.

The iQ Drive split-system air conditioner and split-system heat pump do not require a proprietary thermostat. This means the iQ Drive can use whichever two-stage thermostat the contractor or homeowner desires, which increases both installation flexibility and consumer options.

On top of the modulating technology, the split-system heat pump features NGH's patented defrost technology, which can increase energy savings in heating mode. **nortekhvac.com CB**

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>EDITOR'S NOTEBOOK: PRODUCTS

continued from p. 16

Airzone, a leader in dynamic HVAC control solutions, announces the launch of Easyzone in the North American market. Easyzone is a plug-andplay, all-in-one zoning solution for concealed inverter and VRF HVAC units. At launch, Airzone will offer custom zoning kits for Samsung, Daikin, Mitsubishi, and LG systems, with more to come throughout 2023.

Easyzone is established in the European marketplace as an easy-to-install and energyefficient zoning solution. It ships as a pre-wired kit, including the thermally insulated motorized plenum, control board and plenum neck. The

plenum neck provides custom mechanical adaptation for each model of HVAC unit, so installation is truly plug-andplay. Easyzone is available with 6- or 8-inch dampers. Once installed, Easyzone can regulate temperature and airflow capacity in up to six independent zones via Airzone's patented airflow regulation mechanism. No bypass damper is required; Airzone's unique control board precisely adjusts the airflow and unit capacity, resulting in energy consumption savings of up to 30 percent. *airzonecontrol.com*



Once installed, Easyzone can regulate temperature and airflow capacity in up to six independent zones via Airzone's patented airflow regulation mechanism.



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EVENTS

An EPIC Event from EGIA

The conference by Electric & Gas Industries Association was an educational dynamo, with 20 presenters covering essentials of successful HVAC business management and leadership. by Terry McIver



Scott Deming served as emcee of EPIC2023. Terry McIver

ot that the city needs the help, but EGIA Contractor University's EPIC2023 Conference added a jackpot of excitement to Las Vegas, with a show at Caesar's Palace that brought heating and air conditioning contractors together for the major learning and networking event, March 15-17. EPIC stands for "Educating Professionals in Contracting," and the event did just that.

Contractor attendance was just shy of 1,000, an impressive number in today's very competitive show arena. Exhibitors and significant others added to the body count, and for a trade show, it's always, "the more, the merrier."

The Electric and Gas Industries Association reported "incredibly positive" reviews from exhibitors and contractors in the early days after the event that was sponsored in part by Daikin, Goodman, Amana, Trane, American Standard, GreenSky and Optimus.

Of the 20 presenters, John Maxwell was voted best presenter, followed by Mark Matteson, ex-NFL quarterback Steve Young, Russ Horrocks and Gary Elekes. Breakout session presenters also received positive ratings, including Matthew Bratsis, Drew Cameron, Kelsi Cooper, Jesse Davis, Scott Deming, Erin Fuchs, Talbot Gee, Eric Gude, Paul Kelly, James Leichter, Weldon Long, Steve Shallenberger, and Zenon Olbrys. Sixty-three exhibitors provided news about products and services in a conveniently-located exhibit space.



"Tee Off for the Trades" sponsors supporting the EGIA Foundation and Women in HVACR included Arkema, CHIIRP, Contracting Business, FTL Finance, HARDI, HVAC Excellence, Lemon Seed Marketing, The New Flat Rate, mediagistic, Online Access, Work with Your Handz, Service First Processing, ProStat, tekhne and WinSupply.

"This conference was AMAZING! Best in the industry by far. I could listen to John Maxwell all

day. Loved how you created a breakout path this year with color guided options. Made a great guide while allowing attendees flexibility. I'll definitely be back next year," wrote Sandra Waddle, Mason Pro Services, responding to a postevent survey. "Every session I attended was super awesome. Lots of takeaways. Best overall conference I've been to and I've been to many in my 30 years," wrote Deanna Mason, also with Mason Pro Services.

"The keynote speakers you obtain are so above expectations. Great job," commented Matt Bunker with Any Hour Service.

This year's event included a charitable golf tournament at Angel Park Golf Club to benefit the EGIA Foundation and Women in HVACR.

Educational sessions were provided in three, 90-minute spots devoted to essential business development topics — Leadership, Comfort Advisors & Sales Professionals, Technicians and Business Growth/Payment Solutions.

"We wanted to make EPIC more of a draw for everyone in a contracting company," said EGIA Director of Communications Lucas Ehrbar. "Plus, all breakout sessions are professionally filmed and recorded and added to *MyContractorUniversity. com*; so, while any one person can only see three total presentations in a track, they can get access to all 12 if they're a member or sign up for a free trial. We've gotten a lot of great feedback around this, so while we're still planning out next year, I'd expect this concept will remain," Ehrbar said.

Jillian Michaels Gets Physical

Fitness pioneer Jillian Michaels presented her message to attendees with the passion and energy you'd expect from one of America's leading personal trainers. Michaels stressed the effort and passion required to succeed in business, in the same way someone succeeds in physical fitness training.

"Without passion, work feels punishing. Being successful takes work and sacrifice. Life can feel punishing enough," Michaels said. "Work must be a labor of love, and that comes when you identify why you're in business. The "how" is the

EVENTS

work and sacrifice associated with your success. This transcends into every facet of your life: great relationships, great health and a healthy career."

"What is the 'why' that's going to make you do all of this work, and turn it into a labor of love?" Michaels asked. "For me, this required thinking big, which is why I believe I was chosen to speak to you first. I'm a forward-facing brand name. Everybody knows Jillian Michaels. How did it happen? By thinking big. Aim big, and where you land will be awesome. How big can you go in your industry? First, find where the money is. Give yourself a time frame and break that down into what needs to happen each year, month, week and day. You need to think as big as you possibly can. Shoot for the stars and land on the moon."

The 'Magic' of Simplicity

Paul Kelly, 30-year entrepreneur and author of *TRICKS of the Trade to SUCCESS – The Magic of Creating Your TA- DAAAH! In Business and In Life*, bought Parker & Sons when it was a \$7 million company, and has grown its annual revenue to more than \$200 million. He stressed the importance of simplicity in business management.

"That's the basis of my book and of our business at Parker & Sons. Everything we do is about simplicity, because simplicity is repeatable, teachable, learnable and easy to implement," Kelly said. One example: "The 'magic' of making money is increased revenue and decreasing costs. That's all there is. And to me, the cost side is 25 percent of the answer. Fixed costs occur no matter what your volume is. You can't change those too much. You can't save a lot of money on the variable side. But you can shed customers with low margins, or who don't pay you in a timely fashion.

"Labor's only going to go up; staying ahead of it is the hard part. You can control your overtime during the slow months. You can get people on a commission system where you're locking in your labor as a percent of revenue. You negotiate better deals with vendors. You become better at marketing. You can raise your prices, but when you raise your prices, you better accompany it with a lot of training," Kelly continued.

Kelly said the biggest mistake contractors make is not charging enough. Some are charging the same amount as they did years and years ago. "A price increase is the easiest thing you can do, but make sure you do the training you need to increase job count, via marketing and your call center, referrals and maintenance agreements," he advised, and provided many more tips during his 90-minute presentation.

Maxwell's Silver Hammer: CONNECT!

Legendary business author and presenter John C. Maxwell was a true crowd-pleaser, with a relaxed demeanor, and words of wisdom mined from decades of successful books and consultations.

"When I decided to write books, I asked myself, 'What can I write about that will always help people? What do people need?' I came to the conclusion that I would write and speak about five subjects to help people be successful:

"Communication: cast your vision, give direction that people will buy into. Leadership: everything rises and falls on lead-

ership. I'm more convinced of that fact today than I was 50 years ago. You have to have good leadership skills and good values.

"Equipping: the ability to develop a team. Teamwork makes the dream work. When you can develop others, when you can develop a team, all of a sudden you compound your input, time and money.



John C. Maxwell Terry Mclver

"Attitude: you are today where your thoughts have brought you. You will be tomorrow where your thoughts take you. The

greatest gap between successful and unsuccessful people is the thinking gap.

"Relationships: the ability to relate well with people, to connect well with people. People won't go along with you unless they can get along with you."

What's Your Extra Mile?

Drew Cameron, EGIA Contractor University faculty member and president of FLOW Odyssey and Energy Design Systems, LLC, spoke on the importance of technical measurements and observations during a home comfort analysis. His presentation listed many practices that are essential in helping a customer "visualize the air" in their home. This include carbon monoxide testing, blower door measurements, flow hood testing and balancing, duct sealing and modification, filter change-outs, coil cleaning and duct cleaning and adding return air registers in every home.

And, don't try to sell "efficiency," Cameron said. "Nobody really cares that much [about efficiency]. They bought the house and the utility bills arrive and they say, 'I guess that's what it costs to live here. They've been paying it for years, and all of a sudden they're getting triggered because it's gone up a little bit?

"It's about lifestyle impact," Cameron said. "Get back to the tools, get back to teaching customers what you know and how it will solve problems. You have the resources, you just need to be more resourceful with them. Ask more questions. Do a home audit on the existing system. Check the air quality. The box is part of the solution but it's the least important part. Because, if you don't fix the air flow, the box doesn't perform. Consider doing an energy evaluation."

Cameron ended his session with a scene from the movie *Elvis*, in which Austin Butler as Elvis Presley sings "If I Can Dream." His point: identify your dream and make it come true.

"When I see you next year," Cameron concluded, "I want you to tell me you did some of what we talked about today, and tell me about the amazing results that you have had, and the lives you're changing."

EGIA's EPIC2024 conference will be presented at the Disneyland Hotel & Convention Center, Anaheim, Calif. **CB**

PPIs Help Business Owners Achieve True Success

"Prime" Performance Indicators reflect the prime, or most flourishing stage or state a company can reach. by Kim Archer

uccessful business owners don't just measure their company's performance compared to competitors. They also measure how well their business performs relative to all available opportunities. In other words, success isn't just about doing better than another company. It's about performing up to your potential and achieving everything that's possible.

To do that, business owners need to plan and identify indicators that help them measure where they are and what they can achieve. We call these "Prime" Performance Indicators (PPIs) to reflect the prime, or most flourishing stage or state a company can reach.

Planning for What's Possible

When a contractor creates a business plan, they look at where they are now and what is possible. Once an opportunity is identified, a key goal is established, with an implementation plan for achieving the goal. Results can impact many areas of the business, but the goal is to increase net profit from operations, which will convert to cash, which then funds the company's future growth.

Every company has unique circumstances, and every business leader has priorities. There are many PPIs to track, including:

• **Productivity:** The skilled trades industries have been facing a labor shortage for years, which is expected to worsen. Since skilled tradespeople drive revenue, it's critical to measure their efficiency effectively. Most businesses operate at around 40% efficiency. That means they're getting about 3.2 productive hours out of every eight-hour workday. Monitoring efficiency in order to reach 100% productivity is a key prime indicator for every company.

• Gross profit employee: It seems everyone is measuring revenue per employee, but that doesn't tell the whole story. You may lose some opportunities if you have a high revenue per employee and a low gross profit per employee. This number reflects the company's operational effectiveness.

Offering accessories to customers is a sure way to increase gross profit dollars earned on a job without impacting overheads. To achieve prime, a contractor must offer accessories and track the number of units sold. If the average gross profit on an accessory was \$200, and you sold five a day, you increased the day's net profit by \$1,000, or \$22,000 for the month. Determine which PPIs will gain the most leverage against and establish a system to measure those and a cadence that keeps the information front and center.

How to Measure Success

A profit and loss statement is the most important tool for measuring the PPIs you choose to focus on. When properly accounted for, the profit and loss statement serves as an unbiased record of operations. If profit margins aren't in line with pricing, you should regard that as a yellow flag. Once it's been thrown, it's time to dig into your figures to determine why you missed your targets. Think of the calendar like a ball game. We play 12 games a year, and your profit and loss statement is the final scorecard. Daily and weekly reporting shows if you need to make any adjustments during the season to get a winning record.

Every system should have checks and balances or a system of reconciliation. When it comes to your financial reporting, the accounting team should follow a month-end close process and checklist. This process ensures the accuracy of the financial statements. Ultimately, financials are the unbiased judge of success, if the accounting team follows a verifiable month-end close procedure.

A Path to Financial Freedom

PPIs tell us where we are today. During the planning process, we look at the opportunity — what is possible. If there is a disparity between where we are today and the opportunity available, we can build an actionable plan to bridge the gap between the two.

Business should be fun! Step back and assess your game plan if you are not having fun in the business. What do you want to achieve personally and financially? Is your company delivering? Are there opportunities that you are missing? Planning using your PPIs will uncover your potential and provide a pathway to financial freedom. **CB**

Kim Archer is vice president of coaching and a trainer with Business Development Resources (BDR), a leading business training and coaching provider to HVAC contractors and distributors. For more information, visit www.bdrco.com/plan.

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COMMERCIAL HVAC / PROJECT IN FOCUS

Chilly Church Gets a Ruud Awakening

Two-story, multi-use church lacked a properly sized and zoned HVAC system. Focus Heating & Cooling installed and zoned almost 100 tons of Ruud commercial packaged units.

ucked in the capital city of Salem, Oregon — home to nearly 180,000 residents — is Trinity Covenant Church and the tight-knit community that it has served since the 1950s. Recently, the church's leadership had to face challenging decisions about how to best serve Salem by modernizing its HVAC system.

The congregation moved to its current space in 2001 to provide the community with a larger facility. The 31,500-sq. ft., two-story multi-use building includes a large foyer, sanctuary, classrooms, community gym, library and offices. Outside of Sundays, these areas are used by many people, including church staff, youth attending free after-school programs and peer groups. The space is also used by community outreach teams who provide resources for the homeless and serves as Trinity Covenant Church worship center.

Comfort zones throughout the building were reconfigured to better meet the needs of both levels, which included zoning the first and second floors separately.

Images courtesy of Focus Heating & Cooling

the home to countless other programs committed to helping others in the community.

CIT.

Although the larger space suited the community's needs, its HVAC system did not. During cooling season, the downstairs office area would get so cold that staff required space heaters, while the upstairs classrooms would get excessively warm, routinely reaching 80 degrees. The community gym also experienced frequent cold drafts that would blow through intermittently. A lack of thermostats and temperature control on the second floor only made the situation more challenging.

The heating company serving the church tried to find small workable solutions, but the repairs did not solve the larger heating and cooling issues. Eventually, church leadership decided to invest in replacing the HVAC system to



provide the best long-term solution for its community.

They received recommendations from the community that **Focus Heating and Cooling** would make an ideal partner for the project. Experienced in Commercial and Residential HVAC maintenance and installation, the Focus team immediately surveyed the entire building, reviewed the current system's functionality and worked in conjunction with **Mar-Hy Distributors** to determine the best solution to provide

the church with a much-needed HVAC overhaul.

"One of the issues we found on this building was that they zoned by use of equipment," says Jason Burns, owner of Focus Heating and Cooling. "It is a two-story building and they zoned it being north and south, so two separate floors were controlled off one piece of equipment. We suggested that the system be rezoned so that the two levels had separate controls." The rezoning would allow both floors, which host a variety of spaces, increased flexibility and control over temperatures in specific areas of the multi-use building.

Burns worked with the Mar-Hy team to recommend a mix of **Ruud** Renaissance and Resolute commercial packaged units to rectify the problem. Oregon has progressive state building codes making the Ruud products ideal for the project, as they were designed and engineered to meet or exceed all those crucial standards. Almost 100 tons of Ruud equipment was installed across nine units. The day of installation required a high level of coordination between Focus, Mar-Hy and the Ruud teams. "The Renaissance line is so great. You just set it on a curb, and you're done," Burns says. "You don't have

to put a curb adapter in, which saved us probably an hour of crane time on this project. And that's huge." Once the units were in place, the team was able to install the equipment quickly, as the Ruud units include hinged panels for faster and easier access, pre-programmed VFDs, and single point wiring throughout.

The Renaissance units feature a durable, stainless-steel heat exchanger option for gas/electric products. "It rains a lot in Oregon, and the stainless-steel heat exchanger has a low up-front cost and provides a good added benefit to the contractor, as well as the customer, as it offers an extended 20-year warranty," says Eric Schmidt, operations manager at Mar-Hy.

Church staff no longer need space heaters while they work in the offices on the main level

With the church's new HVAC system, the zones throughout the building were reconfigured to better meet the needs of both levels, which included zoning the first and second



Mar-Hy leaders: owner Jeff Schmidt, center, with his sons Eric (left) and Matt.

floors separately. Church staff no longer need space heaters while they work in the offices on the main level, and airflow in the gym was corrected to eliminate cold drafts and provide comfortable, balanced temperatures.

Chuck Burleigh, a member of the church since he was 13 and retired engineer who helps with facilities management, said, "I come in, the building's cold, I turn the thermostats up, and the place actually gets warm quickly. Everybody has been really happy with the system."

"Ruud always wants to do what's right, and we make a product that is going to last a long time, easy to install and good quality equipment for the contractors and the end users," said Jim Wheeler, Ruud district sales manager.

The collaboration between manufacturer, distributor and contractor ensured this church community will be comfortable for years to come. **CB**



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New **Amana® brand S-series** splitsystem air conditioners and heat pumps are engineered for traditional ducted applications with heat pump, gas furnace or dual fuel connectivity. Easy to transport and install, requiring just 4" of clearance, S-series are ideal for small backyards and zero-lot-line applications. Outdoor units run as quietly as 56dB(A).



Available in 1.5-5 tons, Amana brand S-series can use existing line sets and connect up to 100' of pipe (for typical installations). High-performing inverter compressors deliver up to 17.2 SEER2 and 8.5 HSPF2.

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COMPANY PROFILE

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merican Standard Heating & Air Conditioning believes the best heating and cooling systems are the ones you don't have to think about. Installing the right system with quality equipment makes life easier for both the customer and the dealer. This dedication to being the best in the industry, and working with equally dedicated dealers, is just part of why American Standard Heating and Air Conditioning is "Built to a Higher Standard."

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The Platinum 18 heat pump is part of a new lineup of communicating equipment featuring American Standard Link. Created to provide technicians with a "plug and play" experience, this innovative technology simplifies variable speed system installation and commissioning. Automated configuration, charging and system testing provide installation accuracy. And American Standard Link works with remote monitoring to provide quicker solutions and more efficient service calls.

American Standard Link provides the exact data technicians need for



installation and troubleshooting on their own smart device – all to ensure an easier setup. These models have dual capability to operate with AccuLink variable speed indoor equipment and controls, as well as the American Standard Link air handlers and smart thermostats.

The full American Standard Link lineup is available to our independent dealers nationwide.



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Adding AccuClean™ to an American Standard HVAC system helps address home indoor air quality challenges by removing 99.98 percent of airborne pollutants-including those as small as .3 micron, which is 700 times smaller than a human hair. This system has proven to be 8 times more effective than even the best HEPA room filters and up to 100 times more effective than a standard 1-inch filter. AccuClean is also certified as asthma and allergy friendly[®] by the Asthma and Allergy Foundation of America, and best of all it does not require any costly replacement filters and can be cleaned at home as needed.

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COMPANY PROFILE

Daikin Comfort Technologies North America, Inc., a subsidiary of Daikin Industries. Ltd., is the #1 HVACR manufacturer worldwide with over 84.000 employees. For 95 years. Daikin has committed to innovation and quality. Daikin's commitment in the U.S. includes a \$417M investment of Daikin Texas Technology Park, a state ofthe-art campus the size of 74 football fields, located in Waller, Texas.

DAIKIN

Daikin ATMOSPHERA, the next generation of single zone ductless products with low Global Warming Potential (GWP) R-32 refrigerant is available in four sizes from 9,000 to 24,000 BTU. Daikin ATMOSPHERA reduces the GWP by up to 80% compared to similar R-410A systems. And R-32 has been shown in Daikin's labs to increase efficiency by up to 12% over R-410A with comparable products, lowering electricity consumption and indirect emissions. Daikin ATMOSPHERA includes built-in Wi-Fi for connectivity to the Daikin Comfort Control App, includes a wireless I/R controller, and is compatible with several other Daikin controllers, including the Daikin One+ smart thermostat.

www.daikinatmosphera.com

Daikin Fit is a smart HVAC system with matching condenser, controls, gas furnace and evaporator coil. Daikin *Fit* systems are engineered with high performing, quiet inverter compressors and side discharge cabinet designs that are smaller, lighter, and quieter than traditional residential unitary outdoor condensing units, requiring only 4" of clearance. Available in 1.5 to 5-ton

capacities, Daikin *Fit* provides up to 17.5 SEER2 and 8.5 HSPF2 efficiencies with a Daikin swing variable speed inverter compressor. Furnaces and evaporator coils are available in upflow, downflow, horizontal left and horizontal right configurations, with furnace efficiencies ranging from 80% to 97% AFUE.

www.daikinfit.com

The **Daikin** *CIRRA* multi-zone heating and cooling system with variable speed inverter compressor provides a 1.5-ton capacity system for 2-zone applications with efficiencies of 17 SEER2, 9 HSPF2 and 10 EER. Multi-zone systems are ideal for multi-room applications desiring individual room comfort in a space saving design. With the ability to connect two wall-mounted indoor units to a single outdoor unit, this compact and simple



solution can provide additional comfort to spaces where other solutions may not be viable. Additionally, the small outdoor unit footprint takes up less space compared to traditional outdoor units. Daikin *CIRRA* systems are innovative, reliable solutions for 2-zone applications.

www.daikincomfort.com/products/heating-cooling/multi-zone/ outdoor-units/daikin-cirra-2-zone-multi-zone







Friedrich Air Conditioning

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COMPANY PROFILE

Founded in 1883, Friedrich employs rigorous quality standards and innovative design in the manufacture of specialty HVAC products for residential and light commercial applications. Whether the application is a single room or a large facility, Friedrich is trusted to provide superior cooling and heating solutions. Friedrich is Rheem® company.

Friedrich ductless with FastPro® design

riedrich Floating Air[®] Ductless offers three exceptional lines of heat pump models with unique features to meet every need, and all with the performance and value expected from Friedrich.

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For total installation flexibility, Floating Air[®] ductless systems come in single and multi-zone systems, with indoor options available in sleek wall-mounted units, discrete ceiling cassettes, or The Insider[®]-inconspicuous concealed



ducted units. With mix-and-match configurations of up to 5 zones, the possibilities are endless.

Whether you are looking for simple installation, high efficiencies, extreme climate solutions (low ambient heating down to -13°F), low voltage options (115V), indoor air quality accessories, or integrated smart home control, Friedrich Floating Air® Ductless has the right product for you.



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For those who want the sustainability and energy-saving benefits of a heat pump, but don't need a large, centralized system, Friedrich Air Conditioning offers Kühl®, the only line of room air conditioners with heat pump technology. Commercial-grade Kühl® units are quiet and powerful, with larger models capable of producing up to 24,000 BTUs heating (cool only up to 35,000 BTUs). That makes Friedrich Kühl® an outstanding all-season room A/C solution, helping save up to three times more money on energy bills.

The only room air conditioner with available MERV 13 air filtration, Kühl® is an excellent choice for cooling and heating classrooms, hospital rooms and other facilities where Indoor Air Quality (IAQ) is a concern. The specially designed filters provide superior indoor air quality without loss of performance.

Friedrich Kühl[®] is also available in lower-global warming potential (GWP) R-32 refrigerant models which comply with California's state regulations (CARB). Kühl's integrated "Smart Control" through the FriedrichConnect[®] app is energy management designed for commercial applications with BMS-like grouping, as well as connectivity with smart home/voice command devices, to deliver the ultimate in anytime, anywhere comfort and convenience.





Air Conditioning & Heating

19001 Kermier Road Waller, TX 77484 Phone: 877/254-4729 *www.goodmanmfg.com*

COMPANY PROFILE

Goodman[®] brand indoor comfort solutions are engineered for years of dependable performance, while enhancing the dealercustomer experience. Goodman's forward-thinking innovations are improving both indoor comfort and indoor air quality, with products built for trouble-free installation, easy diagnostics, and simpler servicing. Backed by strong limited warranties*. Goodman products are designed, engineered, and assembled in the USA. For great indoor comfort at a refreshingly affordable price, it's Goodman.



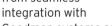
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Nest Thermostat F

and experience between an HVACR manufacturer and Google, a global leader in smart thermostats. It's designed to help HVACR dealers build and retain businessfrom seamless integration with



Goodman systems and an exclusive fiveyear limited warranty* to Nest home alerts customized with dealer contact information. Customers will relish the simple interface, remote control, and monthly performance reports. Dealers will love the easy installation, VIP technical support, and long-term customer connections. The Nest Thermostat E + Goodman packs brains and brawn into one powerful product.

New Goodman Inverter AC Drives Up to 22.5 SEER2 Efficiencies

The Goodman®

brand inverterdriven GSXV9 air conditioner is an energyefficient marvel, providing



and diagnostics via the **CoolCloud**[™] mobile app. (ComfortBridge works with *any* single-stage thermostat, or by upgrading to smart home automation.) Inverter-driven systems reach indoor comfort settings quickly, continually dehumidifying to balance heat load. Increased efficiencies also reduce compressor wear and tear. Full of contractor-friendly features that make installation and servicing easier, the Goodman GSXV9 is backed by a Lifetime Compressor Limited Warranty.*

High-Performance Goodman GSZV9 Inverter Heat Pump

Leveraging Smart Speed[™] inverter technology, Goodman's newest heat

pump quietly drives up to 22.5 SEER2 cooling and 8.2 HSPF2 heating performance. The Goodman[®] brand GSZV9 helps avert temperature swings seen



with non-inverter, single- and two-stage units. Feature-packed with integrated **ComfortBridge**[™] communicating technology, GSZV9 heat pumps include factory-installed suction line accumulators, compressor crankcase heaters, high-capacity mufflers, high/ low-pressure switches, and coil/ambient temperature sensors. Also featured: ComfortAlert[™] diagnostics, SmartShift[®] technology for reliable defrost, and an enhanced copper tube/aluminum fin coil. They're backed by a Lifetime Compressor Limited Warranty.* Like all Goodman indoor comfort products, the GSZV9 is designed, engineered, and assembled in the USA.

* For complete limited warranty information, visit **www.goodmanmfg.com**

Ritchie Engineering Company, Inc./ YELLOW JACKET®

10950 Hampshire Avenue South Bloomington, MN 55438 952-943-1300 custserv@yellowjacket.com **www.yellowjacket.com**

SETTING THE STANDARD FOR HVAC PRODUCTS

The YELLOW JACKET[®] brand name is synonymous with quality HVAC/R tools. Ritchie Engineering Company, Inc., based in Bloomington, Minnesota, engineers, manufactures, and continuously improves YELLOW JACKET[®] products. With over 70 years in the industry and an emphasis on quality and service, YELLOW JACKET[®] products are sold worldwide through a network of authorized HVAC&R and automotive wholesalers.

TurboRecover™ for Fast and Effective Refrigerant Recovery.



ecognizing the need for a lightweight recovery machine that is fast and effective, Ritchie Engineering Company, Inc. has introduced the YELLOW JACKET[®] TurboRecover™ Recovery Machine.

The powerful twin-cylinder, oil-less compressor and 1.25 hp Brushless DC (BLDC) motor ensure fast system recovery. Its dual-gauge design allows for monitoring of the system and tank pressures simultaneously and an integrated low-pressure switch automatically powers down the machine when recovery is complete. Integrated purge circuit clears residual refrigerant from the machine, preventing cross-contamination when changing from one refrigerant to another. The reusable mesh particulate filter is integrated into the suction port and can be easily cleaned or replaced. The **TurboRecover™** is lightweight and includes a shoulder strap for easy transportation to any jobsite. Its single control valve and status indicator LED make it the simplest recovery machine on the market!



For more details, visit https://yellowjacket.com/product/turborecover-recovery-machine/

Shortridge Instruments, Inc.

7855 E. Redfield Rd. Scottsdale, AZ 85260 Phone: 480/991-6744 Fax: 480/443-1267 *www.shortridge.com*

COMPANY PROFILE

Shortridae Instruments. Inc. developed the analog FlowHood in 1974 and invented the line of unique electronic digital readout AirData Multimeters in 1984. providing direct readout of air flow, velocity, pressure and temperature. The rugged, reliable field instrument automatically zeros and automatically corrects for the density effects of barometric pressure and temperature. Readings in English or metric units. All calibrations certified NIST traceable. Calibration program maintained in compliance with ANSI/NCSL Z540-1. One- to two-week turnaround on calibrations.

AirData Multimeter for Every Application

Shortridge Instruments, Inc. offers fiv different leve of AirData Multimeters. The entrylevel model CFM-88L reads air



flow, temperature

and absolute pressure, and it comes complete with an 8400 FlowHood kit. The more advanced meters may be used with a FlowHood, but also read velocity and differential pressures. including static and velocity pressures. The powerful model ADM-880C provides true data-logging functionality with a 2000 reading memory, recall of each time- and date-stamped reading, and the associated temperatures and pressures recorded for each reading. The average, sum, minimum, maximum and standard deviation may be viewed for each of the 25 user-selectable memory groups. Readings may be downloaded directly to a computer or printer.

ADM Kits-Complete Solutions

AirData Multimeter kits include industrystandard pitot tubes, static pressure, probes, and tubing. The ADM-880C, 870C, and

860C AirData Multimeters also

include two proprietary probes, which make air-balancing faster and easier. The AirFoil probe is a single-point velocity probe with a straight shaft design for easy duct insertion. The VelGrid is a 16-point, velocity-averaging grid, which is useful for exhaust hoods, clean-room filter outlets, laminar flow workstations, and large filters and coils.

HDM Kits Provide Complete Solutions

The HDM-250 HydroData Multimeter is designed for efficient, accurate pressure and temperature measurements of nonpotable water. This meter functions as a compound pressure gage, simultaneously measuring the high-side and lowside pressures along with the differential pressure, and display-

displaying each of the readings in sequence. Any

mix of readings may be stored for later recall. The HDM-250 kit supplies key accessories for water-pressure measurement, including a Valve Network Panel, hoses, and a variety of brass fittings.

FlowHood Tops for Every Application

Standard FlowHood top sizes supplied with FlowHood kits are 2x2 ft, 2x4 ft, 1x4 ft. 3x3 ft. and 1x5 ft. Two standard sizes may also be ordered for use with slotted diffusers, 5.25x47 in. and 5.25x60 in., and two standard sizes are offered for Direct Inflow Measurement (DIM) on cleanroom cabinets: 8x24 in. and 10x24 in. Custom top sizes available on request.



Shortridge Instruments, Inc.



6200 Troup Hwy. Tyler, TX 75707 Phone: 903/581-3200 *trane.com/residential*

COMPANY PROFILE

At Trane, we never stop testing our products to be the most reliable in the industry. Trane solutions optimize indoor environments through a broad portfolio of energy efficient heating, ventilation, and air conditioning systems; parts support; and advanced controls.

Trane

rane systems stand up to anything-because we've tested them against everything. Like the freezing conditions in the Trane System Extreme Environmental Test (SEET) lab. Engineers subject units to five years of wear and tear in just months. If it's reliable enough to earn the Trane name, it's a product customers can rely on.

Trane Platinum XV20i Heat Pump with Trane Link

The new XV20i Heat Pump harnesses a revolution in communication: Trane Link. This innovative technology simplifies variable speed system installation, commissioning, and remote monitoring. It equips technicians with a true plugand-play experience.

Automated configuration, charging and system testing provide XV2Oi installation accuracy. Trane Link selfidentifies the equipment, automatically connects through Bluetooth mesh, and uses standardized color-coded wiring-all to ensure an easier setup.





Trane Link also creates more efficient service calls and troubleshooting. Technicians can access the data they need, right from on their own smart device. The full Trane Link lineup is available to our independent dealers nationwide.

Trane Link UX360 Thermostat

Save energy without sacrificing comfort. The Trane Link UX360 uses cloudbased adaptive technology to optimize the entire home. Its sleek design and interactive touchscreen improve the user experience. And with the new Trane Diagnostics mobile app, installation and setup have never been easier.

Combined with Trane Link, the UX360 centralizes decision-making, improves accuracy and enhances dehumidification. It also enables self-configuration and precise insights for easier maintenance. The system pairs with up to three relative humidity and temperature sensors. And it offers seamless control through the Trane Home app and Alexa® or Google Home® voice commands. BY CHARLIE GREER

Going Mobile in Service and Sales

oing digital is no longer the wave of the future. The future is now. Dispatching, invoicing, quoting, inventory, bookkeeping, and payroll can all be done on your mobile phone or tablet, and more and more HVAC contractors are getting onboard.

Even though it's becoming the norm, we're still in the beginning stages. The purpose of these mobile software programs is to make your company more efficient, and therefore, more profitable. Currently, the "more efficient" issue is still questionable. Certain platforms actually require contractors to hire additional staff just to run them and require weeks of training, and months to integrate and get used to.

When considering a new digital platform, talk to as many contractors who are already using it as possible.

My "pet peeve"

Something that's always kind of bugged me is that almost every new thing they invent in HVAC, from sniffers and other tools, to digital platforms, are all sold as a "sales aid." Why does everything have to be a sales aid?

All the mobile platforms themselves are sales aids. My observation has been that introducing a new mobile app can possibly increase the sales figures of technicians with the lowest sales, but its restrictions can hinder technicians with the higher sales figures. Good salespeople need flexibility in how they present their recommendations and put custom packages together for customers, but that does require enough expertise with the program to invent "work arounds".

To be clear, I'm not opposed to digitalizing your service calls. Once everyone becomes familiar enough with the app in question, it can streamline your business. I just don't think they're sales aids.

On a more positive note, the apps help technicians who have bad penmanship and make a lot of mathematical errors

My experience:

I made a career out of writing up my recommendations to service and replacement customers on a blank sheet of lined paper using a format I call the "Paper Towel Close" (PTC).



Some digital developers have contacted me, to show me their new software, which they say creates my PTC. I have yet to see that actually happen. All they do is generate a list. It's not even close.

You may like the app because you're used to it and your device, but do you really like looking at anything on someone else's digital device? I don't. I still believe that people want to be able to see what they're buying on a large, easy to read, simple piece of paper.

"Well, what about Millennials? They love apps!" Sure they do ... their own. Most of my friends are Millennials, and they tend to be just like everyone else. They're not crazy about looking at a bunch of numbers on a small device in a format they've never seen before.

Don't base your marketing and business model on Millennials. They don't have any money. You know who has money? Senior citizens, that's who, and they're not crazy about apps or digital devices. They still read magazines, newspapers and books.

One of the challenges I've seen with all digital platforms, from blower door testing to digital apps for running service is that, when using them in front of a customer, it requires the complete concentration of the part of the salesperson or service technician and creates a total disconnect with the interaction with the customer.

After consulting with the customer, if the list of recommendations has to be modified at all, the customer is stuck there twiddling their thumbs while the employee fools with the app.

My recommendations:

When considering a new digital platform, talk to as many contractors who are already using it as possible.

Before going live with a new digital platform, select a group of employees to use it and provide feedback on their experience.

In closing, I see the benefits to digitalizing your company and going mobile; I just don't see them as "sales aids" and don't let anyone take it into the field until they are completely familiar with it. **CB**

CHARLIE GREER, voted "Favorite Industry Sales Trainer" and "HVAC Consultant of the Year" is a member of the Contracting Business Hall of Fame. For info on Charlie's products or services, call 800-963-HVAC (4822) or **www.hvacprofitboosters.com**. Email questions or comments to **charlie@charliegreer.com**.

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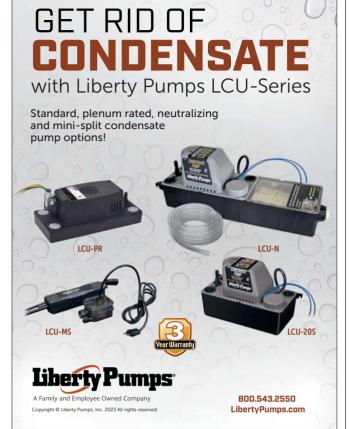
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>THE LAST WORD

BY DOMINICK GUARINO

The Best of Times for High-Performance Contractors

ur industry has come a long way in terms of our ability to measure, diagnose, and improve the delivered performance of HVAC systems. There is no doubt in my mind that right now is the best time for contractors to get started in this pursuit.

As an industry we are now very blessed to have the best tools, software, and training to take our technicians, installers, and salespeople to the top of their game in terms of not just measuring performance but proving their results!

Another reason the timing is right: customers are spending more time to get educated before embarking on getting a new HVAC system, or even choosing a service contractor to repair and maintain their systems. There is more online information available than ever to help homeowners navigate what can be an often be a daunting journey to choose both a contractor and technologies wisely.

In terms of the impact on you, as an HVAC professional, let's break down the three key areas where we've made a *sea change* of progress over the past 10 years.



"There will never be a better time to jump into true performance testing in our industry."

High-Performance Tools

Over the past decade, technology built into the tools and instruments used to test HVAC systems has evolved in quantum leaps. Not long ago our test instruments were clunky, sometimes unreliable, hard to use, and very expensive. Today, we have an amazing array of fantastic testing products available to us at a very reasonable cost.

Many instruments now using communications technology to talk to our phones, and other wireless device so they can more accurately and repeatedly capture important airflow information. We can use this information to both diagnose and balance air distribution systems.

Other important tools including airflow capture hoods, digital manometers, anemometers, thermometers/hygrometers, combustion analyzers, and watt meters have become more accurate, and many have fantastic communication capabilities.

These new products are not just better at capturing data, but many interface with software platforms to help analyze and interpret the information to help you better diagnose performance issues and lead you to the right solutions. Most are significantly less expensive as well.

For example, an instrument from The Energy Conservatory called a TruFlow Grid has been completely redesigned and now accurately measures total airflow at a return filter grille or filter rack on a ducted split system, under almost any conditions. NCI has done extensive testing on the tool, and we are very pleased with the results.

High-Performance Software

Diagnostic and data capture software has been introduced over just the past few years to our industry. These cloud-based applications include NCI's own ComfortMaxx[™] and AirMaxx[™], as well as MeasureQuick[™], a data capture and diagnostic software that interfaces directly with many of the latest HVAC test instruments to hit the market.

I believe we are just getting started in this arena, as these applications will evolve and get better and easier to use over the months and years ahead. Because of this type of software, system testing is becoming more mainstream, and a key foundational block for High-Performance Contracting.

High-Performance Training

Training to help field personnel learn to test and verify system performance in a logical step-by-step approach is more available than ever. The best training has been streamlined to help people in specific roles in their part of the process.

For example, NCI's *Airflow Testing and Diagnostics* training is a great foundational step for virtually every technical role in an HVAC business. Your field people can then springboard up to other specialties that fit their role in a company.

There will never be a better time to jump into true performance testing in our industry. While we have all the pieces in place, it's estimated that currently less than 10% of HVAC companies are properly using measurement and diagnostics to evaluate systems and offer provable solutions.

This is a phenomenal opportunity for your High-Performance business, whether you are just exploring this approach or are well down the road in differentiating your company with proven performance. **CB**

DOMINICK GUARINO is CEO of National Comfort Institute (NCI), (www.nationalcomfortinstitute.com), a High-Performance training, certification, and membership organization, focused on helping contractors grow and be more profitable. His e-mail is domg@ncihvac.com.

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Before purchasing this appliance, read important information about its estimated annual energy consumption, yearly operating cost, or energy efficiency rating that is available from your retailer.

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