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JULY 2023

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HELPING HVACR MANAGERS RUN BETTER BUSINESSES SINCE 1944

A man and a woman are looking at a tablet together. The man is in the foreground, wearing a light blue button-down shirt, and the woman is behind him, wearing a beige sweater. They are both looking intently at the screen of the tablet, which is partially visible at the bottom of the frame. The background is a bright, out-of-focus indoor setting.

Compel Customers to Buy

New prospects offer the opportunity to serve a new home that is full of potential.

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Grow the Business

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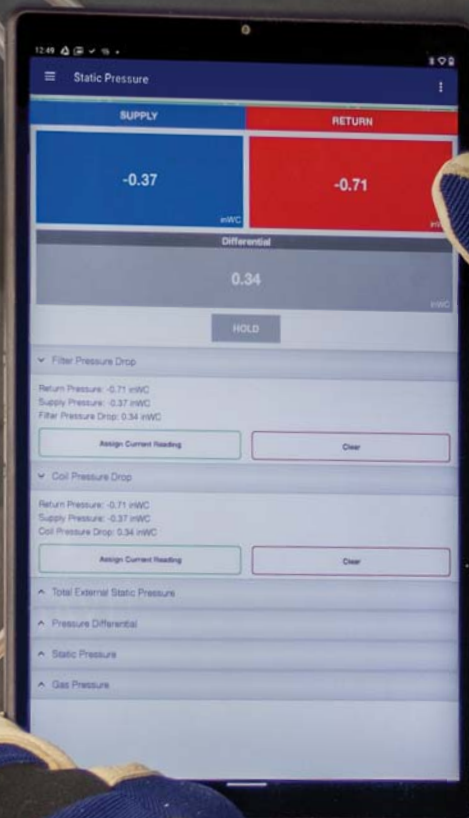
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**Per a 2022 MIAT Residential HVAC Competitive Time Study on base and mid-tier Endeavor Line products and commercially available competitor units of similar product tier.*

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New customers mean new opportunities. Existing customers offer ways to strengthen relationships. Photo: goodluz / Getty Images Plus



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Chemours, JCI Share Refrigerant Info

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News @ Press Time

PHCCCONNECT 2023

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AHRI Issues Air Quality Reminders

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PHCC Visits DC Legislators

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Contracting Business Success

4 Requirements of Success

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eNEWSLETTER

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Non-refillable cylinders would have imposed extraordinary burdens on contractors and distributors.

DC Court to EPA: “You’re Out of Order!”

In a major victory for the HVACR industry, The Air Conditioning Contractors of America (ACCA) announced on June 22 that the U.S. Court of Appeals for the District of Columbia Circuit ruled in favor of a lawsuit that had been brought by ACCA, Heating, Air Conditioning & Refrigeration Distributors International (HARDI), Plumbing-Heating-Cooling Contractors National Association (PHCC) and Worthington Industries, a manufacturer of refillable and disposable cylinders, by striking down provisions of the Environmental Protection Agency’s (EPA) allocation rule that would ban the use of non-refillable cylinders and require QR code tracking of refrigerant cylinders. The Court’s final opinion on the lawsuit can be found at bit.ly/3ppNOcP.

“ACCA is thrilled that the Courts sided with us in the lawsuit on the disposable cylinder ban and QR code tracking,” said Barton James, ACCA president and CEO. “We knew the EPA was overstepping its authority with this ban and tracking method, so partnering with other leading trade associations to fight against it was an easy decision. With this big win, contractors will not have to wastefully spend money on new equipment when there is already an option available that works with their current setup. ACCA is proud of this win, and we will continue to fight for contractors to be able to run profitable businesses without burdensome regulations.”

Forcing contractors and distributors to revert to the use and handling of non-refillable refrigerant cylinders would have imposed severe burdens on business operations, as well as physical and possible health hazards to all persons who handle them, due to the greater weight of non-refillable cylinders. Additionally, tracking the circuitous route cylinders take from contractor to recycling centers and back again would have required extraordinary time and additional costs on business owners.

HARDI sources reported the lawsuit argued that EPA lacked the legal authority to implement the refillable cylinder and QR-code rules. Judge Justin Walker noted, “We agree. The EPA has not identified a provision of the AIM Act giving it the authority to require refillable cylinders or a QR-code tracking system.”

EPA argued that the rules were necessary to prevent illegal imports of HFCs, and the agency could derive authority from the phrase “shall ensure” existing in the statute. However, the EPA had already demonstrated that the QR code tracking mandate and non-refillable cylinder ban are

unnecessary to interdict illegal imports of HFCs. In 2022, in partnership with Customs and Border Patrol, EPA stopped HFCs equaling 889,000 metric tons of GWP from entering the country without the tracking or cylinder provisions in place. EPA is already well equipped to stop illegal imports without operationally burdening the entire HVACR supply chain.

HARDI’s Director of Government Affairs, Alex Ayers, commented, “Since the passage of the AIM Act in 2020, the EPA has been diligently working to get the regulations in place for our industry to phase down the use of HFCs, but with the speed of these regulations comes bad ideas that will damage our members. We continue to fight back with all of our available resources to stop these bad ideas from being implemented. HARDI is happy to see the court agree that the EPA exceeded its authority in banning non-refillable cylinders and requiring the tracking of every cylinder used at consumers’ homes and businesses. HARDI and the entire HVACR industry remain supportive of the HFC phase down, and we look forward to continuing to work with the EPA in achieving the goals of the AIM Act.”

A third challenge to the allocation rule, filed by a separate petitioner, would have eliminated the need for allocations to import HFC blends. This challenge was rejected by the courts, a decision that HARDI supports.

“We applaud the D.C. Circuit’s decision, which ensures that Worthington can continue to provide American-made, reliable, safe and affordable cylinders that are critical to the domestic refrigeration industry, while recognizing EPA’s authority to advance our shared goal of phasing out certain potent greenhouse gases under the American Innovation and Manufacturing (AIM) Act,” said Worthington Industries President & CEO Andy Rose. “We encourage EPA to accept the decision and quickly take steps to comply with the Court’s directive, removing the cylinder ban from EPA’s regulations.”

Worthington will request that EPA, in keeping with the Court’s ruling, publish a direct final rule that restores certainty for Worthington and its customers. In addition, the Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA), which had proposed regulations that would have aligned with EPA’s now invalid refrigerant cylinder ban, should withdraw their proposed rule in light of the Court’s ruling.

The EPA is allowed to appeal the decision. **CB**

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Cleveland Will Rock Even More, as PHCC Conference Rolls In

FALLS CHURCH, VA.—For plumbing and HVACR contractors who are eager to discover proven, practical ideas to meet their business goals, the **Plumbing-Heating-Cooling Contractors—National Association (PHCC)** is providing real insights, real solutions, and real value at its annual Conference and Product & Technology Showcase—PHCCCONNECT2023—to be held this year on Oct. 25-27 in Cleveland, Ohio.

PHCC—National Association President Dave Frame, CEO of Bob Frame Plumbing Services, Inc., in South Bend, Ind., is excited that attendees will be exploring these opportunities with the people who share their passion and purpose.

“Every year, this is your best chance to connect with like-minded professionals who know your challenges, are eager to share



economy, and will provide attendees with clear direction on how to maximize revenue and profit growth.

During a workforce development breakfast sponsored by SupplyHouse.com.—“The Truth About the Trades: Dispelling the Top 10 Myths About Working in the Industry”—contractors and

other professionals will share stories about some misperceptions in the industry and how attendees can promote the truth about the plumbing and HVACR professions.

Educational opportunities also include two sessions for union-affiliated contractors; manufacturer tours of **Moen, Merit Brass, RIDGID, and Oatey**; a Women in the Industry luncheon hosted by the PHCC National Auxiliary; and a chance to experience PHCC’s popular Finance Bootcamp.



Photo 13149484 © Gary Bydlo | Dreamstime.com

PHCCCONNECT2023
closing event
is at the city's
legendary Rock &
Roll Hall of Fame.

Register by July
31 for Early Bird
Pricing

Calling Rising Leaders

Contractors are encouraged to bring the power performers in their companies for a special one-day **Rising Leaders Summit** on Thursday, Oct. 26. The program will be packed with two keynote speakers—Goalmakers co-founder and CEO Jeremy Wall, as well as Steve Acho, a human and business performance mentor. This summit is sponsored by A. O. Smith, Milwaukee Tool, Rheem Manufacturing, and Scorpion.

Technology and Talent

The Product & Technology Showcase will be an unprecedented hub of activity, featuring world-class technologies with a “hometown” feel—as well as exhibitors, more technology, more plumbing and HVAC manufacturers, product demonstrations, education theaters, “QSC Talks” from a business coach, and intimate one-on-one conversations with the leaders of exhibiting companies.

Inspiration will flow both ways as it does every year during the PHCC Educational Foundation’s National Plumbing and HVAC Apprentices Contests.

Destination: Cleveland

Attendees who have time to spare can enjoy Cleveland’s endless icons of art, culture, and history. Among those is the Rock & Roll Hall of Fame and Museum, which will serve as the venue for the PHCCCONNECT2023 closing event.

For more information—including conference schedule, session descriptions, registration, sponsors, and hotel rates and reservations — visit phccweb.org/connect.

Register by July 31 to get Early Bird Rates! CB

their own solutions, and truly care not only about the future of their business but about the future of this industry,” Frame said.

Excellent Educational Program

Attendees can expect **more than 20 targeted educational sessions** on topics plumbing and HVACR contractors want most, from business management and leadership, to sales and marketing, to soft skills and technology. “These relevant sessions will result in key takeaways contractors can implement to make a significant difference in their business,” says Frame.

One of PHCC’s highly anticipated keynote speakers, **Coach Ken Carter**, is ready to push attendees to their full potential during his address, “Growth Begins at the End of Your Comfort Zone.” This successful author, business owner and educator—and the inspiration behind the popular movie *Coach Carter*—will share his hard-hitting advice about accountability, integrity, and leadership, and his firm belief that “greatness is defined by the service you give to others.”

Back by popular demand, Economist Connor Lokar of ITR Economics will offer an accurate, proven, analytical approach on “Piercing Through the Noise,” concerning the status of today’s

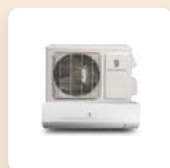
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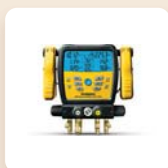
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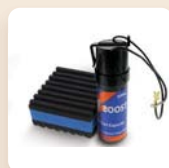
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Rheem Product Teams Receive Two Edison Awards



"To receive recognition for two of our Rheem products from the Edison Awards is a true testament to our company's determination to provide next-level comfort solutions for all of our customers' needs," said Chris Day, vice president, global water product strategy and marketing, at Rheem.

Rheem

ATLANTA—A Rheem® water heating product and HVAC product each won Edison Awards, during an awards ceremony on April 20 in Ft. Myers, Fla.

The Edison Awards, named after the incomparable American inventor Thomas Alva Edison, recognizes world-changing innovations and the brilliant minds behind them.

The **Rheem Renaissance™** 15-25 ton Commercial HVAC line earned silver in the Engineering & Robotics, Commercial Technology category and the **Rheem ProTerra®** Plug-in Heat Pump Water Heater earned bronze in the Consumer Solutions, Sustainable Design category.

"To receive recognition for two of our Rheem products from the Edison Awards is a true testament to our company's determination to provide next-level comfort solutions for all of our customers' needs," said Chris Day, vice president, global water product strategy and marketing, at Rheem. "It is an important acknowledgment for our Rheem team members who work meticulously to ensure we continue to lead the industry by bringing the most innovative, sustainable and smart products to market."

Rheem Renaissance 15-25 ton is a culmination of years of research and development, creative engineering and

innovation. Crafted with smart features, the Renaissance line includes exclusive PlusOne® advantages for easy replacement, installation and service. Renaissance products incorporate features contributing to Rheem's goal of building a more sustainable future.

The Rheem ProTerra Plug-in Heat Pump Water Heater is ENERGY STAR® certified and ideal for drop-in gas replacement. It plugs into any standard 120V outlet and features high-efficiency upgrades without the need to install a 240V electric service. Its built-in EcoNet Wi-Fi technology provides control of the household water

Rheem Renaissance 15-25 ton is a culmination of years of research and development, creative engineering and innovation.

heater so homeowners can adjust water temperature and track energy usage from a smartphone.

All nominations were reviewed by the Edison Awards Steering Committee, with the final ballot determined by an independent judging panel. The panel comprises more than 3,000 senior business executives and academics from the product

development, design, engineering, science, marketing and education fields and past winners.

For more information about Rheem, visit www.rheem.com.

RIDGID Marks 100 Years with Limited Edition Brew

ELYRIA, OH, June 2, 2023—RIDGID®, a part of Emerson's professional tools portfolio, is celebrating its 100th anniversary with RIDGID Wrenched 100 IPA, a limited-edition anniversary beer. The brew, created in collaboration with Unplugged Brewing Company, pays tribute to the expert tradespeople who work hard and know how to unplug.

Unplugged is an Elyria-based craft brewery. The beer crafters worked closely with the RIDGID team to create the bold and steady brew—just like the brand that inspired it. "Our goal was to say thank you to the trade professionals who over the past 100 years have put their trust in our tools every day on jobsites around the world," said Becky Brotherton, director of brand and marketing, RIDGID for Emerson. "Having a small, hardworking brewery in our own backyard allowed us to create something that was truly special."

The specialty craft beer is available for purchase in select Northeast Ohio stores and online for direct-to-home shipping in 41 states through December. To purchase online, visit: rivalrybrews.com/products/ridgid-wrenched-100. Enjoy responsibly.

“RIDGID is an iconic name, recognized around the world, and we’re proud to help them celebrate this milestone anniversary,” said Carlos Lopez, owner of Unplugged Brewery. “As a small business owner, it’s been an honor to create this brew for a company that celebrates its customers in this special way.”

In addition to the RIDGID Wrenched 100 IPA, a limited edition RIDGID beer tap is also available to purchase for use or display. The tap is manufactured at RIDGID global headquarters in Elyria, Ohio, on the same production lines used to produce the brand’s legendary wrenches. It fits a 3/8”-16 body thread or can sit upright for display in a home or shop. Commemorative pint glasses, t-shirts, signs, and hats are also available at ridgidgear.com.

In 1923, the Ridge Tool Company invented the modern straight pipe wrench, introducing it to the world under their brand, RIDGID. Since then, every step forward has been taken with the tradesperson in mind. Today, RIDGID’s pipe wrench design is the best-selling pipe wrench in the world, and many of the wrenches that were sold back in the 1920s and 30s are still in use today.

This year, RIDGID is celebrating 100 years of designing and building innovative tools trusted on jobsites around the world and handed down from generation to generation. To commemorate the occasion,



The specialty craft beer RIDGID Wrenched 100 IPA is available for purchase in select Northeast Ohio stores and online for direct-to-home shipping in 41 states through December. RIDGID



Becky Brotherton, director of brand and marketing, RIDGID for Emerson, pours a cold Unplugged Wrench 100 IPA from the limited edition beer tap at the Unplugged Brewing Company. Terry McIver

RIDGID is spending 2023 celebrating the trades, their impact on our world, and the brand’s legacy.

To learn more about the 100th anniversary, individuals are invited to visit RIDGID.com/100 or their social channels—@RIDGIDTools on Facebook, @RIDGIDTools on Instagram, and @RIDGIDTools on TikTok.

Fieldpiece Instruments, SkillsUSA Announce Scholarship Recipients

ORANGE, CA—Fieldpiece Instruments has awarded a total of \$17,500 in grants to seven deserving students in the first round of its second annual #MasteroftheTrade Scholarship program. An additional \$10,000 will be distributed to the six gold, silver and bronze medal-winning high school and college/postsecondary students that top the leader-board rankings of the National Leadership & Skills Conference in June.

The #MasteroftheTrade Scholarship, administered through SkillsUSA, aims to close the talent gap in the U.S. labor market for the heating, ventilation, air-conditioning and refrigeration trades by allocating funds to industry up-and-comers to use for college tuition fees or postsecondary HVACR technology program costs.

“With so many deserving applicants to the #MasteroftheTrade Scholarship, it was a challenge selecting the seven winners. We received many applications from across the nation submitted by bright, talented and motivated individuals pursuing a future in HVACR, which was extremely rewarding to see,” said Fieldpiece Instruments’ head of marketing, Diana Liem. “Congratulations to this year’s group of recipients; Fieldpiece is honored to provide these financial gifts as we continue to encourage industry growth through other initiatives like student discounts and in-depth skills enhancement for HVACR pros at all levels through Fieldpiece University.”

The seven accomplished SkillsUSA students named to receive the initial round of funding for Fieldpiece’s second annual #MasteroftheTrade Scholarship are:

- Alabama: James Rogers, Alabama Army National Guard and Jason Rawls, Beville State Community College
- Massachusetts: Hunter Claflin, HVACR program at Blackstone Valley Regional Vocational Technical High School
- Nebraska: Thomas Harling, University of Nebraska Lincoln
- North Carolina: Irma Gonzales, Central Carolina Community College
- Oklahoma: Ben Williams, East Central University
- Tennessee: Stacey Hicks, Chattanooga State Community College

On a mission to give back to the industry, Fieldpiece Instruments first introduced this scholarship program last year to help address the nearly one-hundred thousand unfilled HVACR technician jobs in the field reported in 2022. This important workforce is vital to ensuring energy is not wasted, food does not spoil and the comfort and safety of individuals are met on a daily basis. Pursuing a career in HVACR means having a consistent, well-paying job and offers professionals freedom, access to a hands-on work environment and the opportunity to create a lasting and positive impact on businesses, communities and the planet.

“SkillsUSA is proud to have had the opportunity to partner with Fieldpiece

WAGO Announces Appointments

WAGO, providers of interconnect, interface and automation solutions has appointed four to new positions.

WAGO Corporation has recently named **Brandon Draper** their new zone manager for the Western US. This territory includes California and parts of Northern Nevada. Draper earned a Masters Degree in Engineering from Cornell as well as a Masters Degree in Business from Purdue University. He has held various management positions, including head of sales and business development, senior product manager and sales director.

Keser hopes to drive growth and team development at WAGO through collaboration and adherence to strategic principles.

"The opportunity to have a real impact on the team and contribute to the overall success of the company is very exciting," said Draper, "By focusing on revenue growth, team empowerment, and delivering exceptional service, I hope to contribute to the company's success and drive tangible results."

Amy Harlan has been named WAGO's new business development manager for Device Connection Technology. After spending time in the field as a sales representative and regional sales manager, Amy has spent over eight years in a similar role, preparing herself for her new position with WAGO.



Draper



Harlan



Keser

When asked about her goals for the future, Harlan said, "I want to work as a team to build the

Device Connection Technology portfolio as well as become an expert on it, particularly in the lighting and EV industries."

Adam Keser has been hired by WAGO as its new zone manager for the Mountain Region. Keser was with Cascade Controls for the past 22 years, working his way up from the warehouse to VP of sales and marketing. His territory includes Washington, Oregon, Idaho, Montana, Wyoming, Utah, New Mexico, Arizona and portions of Nevada. Keser wants to be a catalyst in a company that thrives on being customer centric. He believes his new position will combine his passion for people and technology.

"There is a great deal of satisfaction when you get to bring a new technology to market or solve a customer's problem that couldn't be solved before," Keser said.

Instruments for the second year in a row," said Chelle Travis, executive director at SkillsUSA. "Playing a small role in the career trajectory of eager young professionals is an honor and we look forward to seeing these rising stars continue to cultivate their skills and contribute to this critical workforce."

To learn more, visit www.fieldpiece.com/Scholarship.

Dakota Supply Group Celebrates 125th Anniversary

PLYMOUTH, MN—Dakota Supply Group (DSG), a leading distributor of innovative products and services, is pleased to announce the celebration of its 125th anniversary and annual ESOP meeting. The company has been providing exceptional products and services to its customers since 1898, and the 125th anniversary is a significant milestone worth commemorating.

The anniversary celebration was held at the Gaylord Rockies Resort in Denver, Colorado, to accommodate employees, partners,

and other stakeholders. The event was a fun-filled occasion that included the annual employee-owner ESOP meeting with their annual stock price reveal, followed by feature music, food, and drinks, all in celebration of DSG's accomplishments over the past 125 years.

"Reaching 125 years in business is a testament to the resilience, hard work, and dedication of our employee-owners and stakeholders," said Paul Kennedy, president and CEO. "We are excited to celebrate this momentous occasion and reflect on our achievements while looking forward to the future. We owe our success to our employee-owners, our steadfast communities whom we serve, our exceptional customers who have trusted us to provide them with high-quality products and services over the years, and our supplier partners whose innovation we bring to market."

DSG is one of the Midwest's leading distributors of innovative products and services for the following industries: electrical; plumbing; HVACR; utility; communications; automation; waterworks; and on-site sewer, water, and well. DSG is a 100%

employee-owned company with over 1000 employee-owners in 54 locations across eight states: Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Wisconsin. www.dsgsupply.com **CB**



The anniversary celebration was held at the Gaylord Rockies Resort in Denver, Colorado, to accommodate employees, partners and other stakeholders.

Dakota Supply Group



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AIRSTAGE

Greenlee®, a part of Emerson's professional tools portfolio, has introduced the EK1550SLX 15-Ton Crimper, a pistol-grip style crimping tool that is 15% lighter compared to Greenlee's existing Kearney-style models, and features a new C-head design with optimized weight balance for overall improved ergonomics.

"15-ton crimping tools have historically been difficult to work with due to their weight and cumbersome flip-top head configuration, but thanks to continued advances in technology, Greenlee's new 15T Crimper addresses both of these concerns," said Ryan Berg, director of product management, Greenlee. "The crimper's new head design reduces weight, improves balance and makes loading and unloading easier. Those



improvements work together to improve ergonomics, putting less strain on the body throughout the day."

Designed for crimping large capacity conductor and connectors in overhead and underground applications, the 15T Crimper crimps up to 1500 kcmil copper and 1250 kcmil aluminum lugs and splices. It is compatible with all industry-standard U and P die configurations, eliminating the need to switch dies based on the job.

Weighing less than 18 pounds with battery, the 15T Crimper also has 350-degree head rotation to access tight spaces with ease and new built-in alignment guide to help ensure a quality crimp. Integrated Intelli-Crimp® System and real-time feedback OLED info center maximize productivity, battery longevity and provide instant tool performance metrics. Greenlee.com

Greenlee® added unique features to its popular large diameter conduit bender with the launch of the 881GX Hydraulic Bender. The bender is engineered with a lighter-weight profile and innovative accessories to lessen user strain and increase productivity on the job, helping the skilled trades complete bending jobs more efficiently and safely.

The upgraded bender features the lightest follow bars available, an extended yoke and durable spring pins to deliver increased productivity and improve ergonomics. The large diameter conduit bender reduces operator fatigue with follow bars that are up to 55% lighter than Greenlee's pre-existing 881CT model. An extended yoke eliminates the need to reposition the ram and spring pins enable even faster and easier setup.

"The new bender design addresses many of the common pain points we heard from our customers and opens up more



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opportunities for the skilled trades to get the job done safer and more efficiently," said Katey Earley, product manager, Greenlee. "Each element of the 881GX Series is meant to simplify setup and changeover with better ergonomics. When combined with Greenlee's Mobile Bending Table they provide maximum jobsite productivity." Greenlee.com

RectorSeal® LLC is expanding its line of adjustable fittings for its Fortress cover products. Fortress products are well known for protecting ductless HVAC linesets, wiring, and condensate drain hoses, ensuring code compliance, and providing a nicer looking installation.



Four new fittings are available in four satin-finish colors (white, ivory, brown, and gray) to complement installation exteriors, the new fittings are UV and weather-resistant and offer a snap-together design to connect with other Fortress brand covers. Fortress products are fully paintable for additional customization.

The new adjustable fittings provide increased flexibility to an HVAC technician and can reduce the number of fittings stocked in inventory or on a service truck. The new Fortress brand fittings are available in flat and vertical configurations. The adjustable flat fittings allow an installer to change directions on a wall surface. The vertical fittings should be used to change direction over an edge or around a corner. Both types of fittings allow the installer to create a 45-degree to 90-degree angle using only one of the new adjustable fittings. The fittings are available in 3.5-inch and 4.5-inch sizes. rectorseal.com

Trane Axiom horizontal and vertical water source heat pumps are available in standard efficiency, high efficiency and variable speed models. Features include: outstanding energy efficiency, up to 40 EER (energy efficiency rating); superior comfort; low life cycle costs; small, space saving footprint.



Trane sources report Axiom to be an all-electric solution with "super efficient" full load energy efficiency rating. It offers higher energy efficiency performance and what is described as excellent climate control with the ECM fan motors on all tiers. Trane also says it has energy-conserving, heat-recovery capabilities that transfer heat from one area to another to meet individual zone requirements. trane.com/commercial

The **YELLOW JACKET**® A2L Test & Charging Manifolds for use with R-32/454B/410A refrigerants are available in popular Series 41, TITAN® and BRUTE II® Manifolds. They are lightweight for handling ease with the durability and reliability required for repeated, rugged use. Sold as manifold only or with a 3-pack of YELLOW JACKET® PLUS II™ 1/4" Hoses 60". The BRUTE II Manifold ships standard with protective gauge boots or they may be ordered separately.

YELLOW JACKET® offers a wide range of A2L Compatible HVACR service tools: recovery machines; vacuum pumps; the P51-870 Digital Manifold; YJACK® wireless probes; leak

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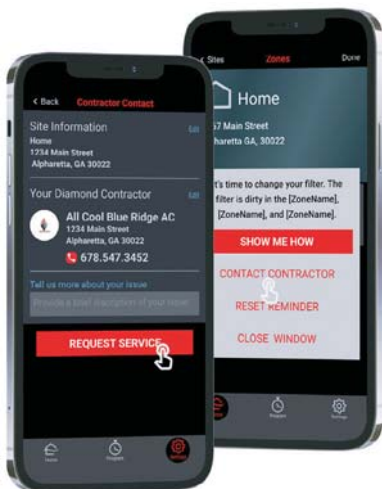
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detectors; refrigerant charging scale; and a large variety of manifolds.

For more information, visit <https://yellowjacket.com/product/a2l-compatible-service-tools/>.

Mitsubishi Electric Trane HVAC US (METUS) has launched the kumo connect™ program, a new function within the kumo cloud® app allowing homeowners to contact their contractor for maintenance or service of their system directly from the app.

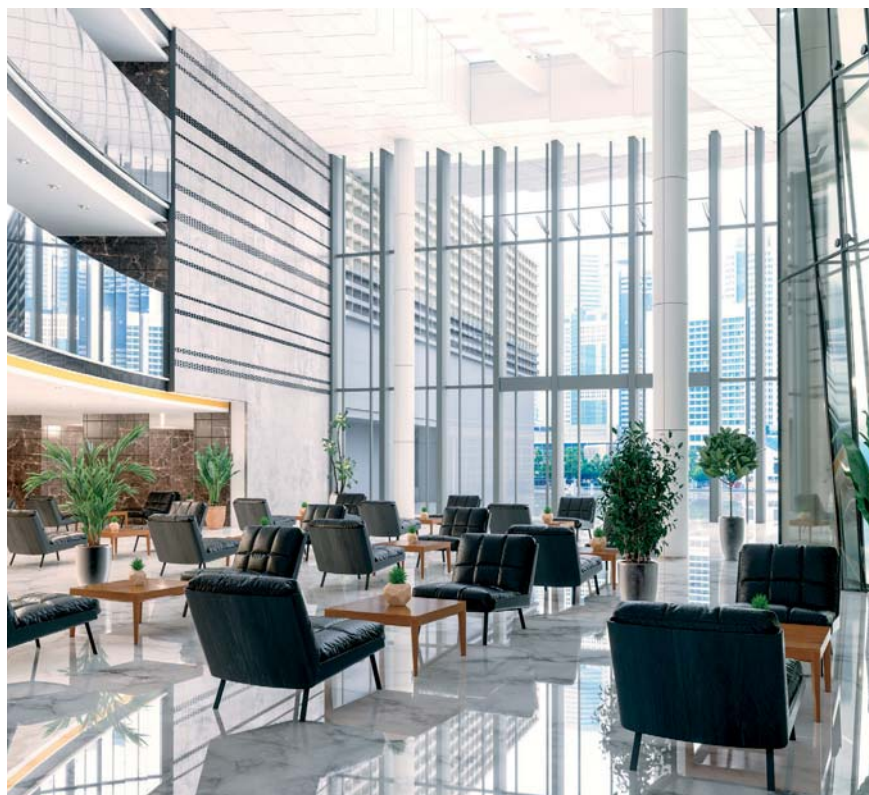
"With kumo connect, METUS brings contractors and homeowners together in a mutually beneficial way," says Charles Miltiades, director, controls products and solutions, Mitsubishi Electric Trane HVAC US LLC. "It makes it easier for homeowners by alerting them when they need HVAC system service before a possible breakdown. Then,



with just a few clicks in the app, homeowners can quickly request service or maintenance from their designated contractor."

An exclusive program offered by METUS for METUS-designated Diamond Contractors and Ductless Pros, kumo connect is designed to enhance service opportunities while creating additional revenue opportunities for contractors who use the kumo cloud platform.

kumo cloud empowers homeowners who have installed Mitsubishi Electric systems to control their homes' heating and cooling remotely using an app



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installed on a smartphone or tablet. With the latest updates and features, the kumo connect feature within the kumo cloud app links homeowners with their preferred contractor, or other approved contractors, within the app.

While setting up a homeowner's kumo cloud app, the contractor enters his company's unique PIN, which is the main 10-digit phone number of the contracting business. By doing so, each installing contractor will be listed in kumo connect as the homeowner's preferred contractor for service and support.

If the homeowner's system needs to be serviced, kumo cloud will prompt the homeowner to contact their designated contractor through the app and request a service call. These service requests are synced within the METUS contractor portal, so contractors will know when customers need help. mitsubishicomfort.com/kumocloud

Fujitsu General America recently introduced the Kagami Controller, which offers touchscreen control of Airstage H, J and V-Series systems, and is designed to blend with interior designs.

The new, stylish two-wire remote controller features a backlit touch panel that displays room temperature when activated, or this can be displayed at all times, along with current time and a variety of other information. The nearly five-inch-square controller's display is a half-mirrored, anti-fingerprint LCD.

The Kagami Controller

is intuitive for the occupant to switch between custom auto, cool, dry, fan and heat modes. An emergency heat function is also provided. A multi-color LED indicates the current operating mode of the indoor unit. Adjusting settings, like room temperature, is accomplished by swiping up or down. Scrolling through setting options simply requires a left or right swipe. A weekly operation schedule can be set, and a human sensor setting is available on select models. Fujitsugeneral.com



Superior Signal Company has released the latest version of its most popular ultrasonic leak detector, the 3rd generation AccuTrak® VPE, with internal circuitry and even greater sensitivity in detecting refrigerant leaks (pictured above).

The Patented Superior AccuTrak® VPE Ultrasonic Leak Detector is a state-of-the-art, non-invasive, ultrasonic leak detector that can detect both pressure and vacuum leaks of any gas, sources report. Superior Signal company says AccuTrak® VPE is ideal for pinpointing leaks in air conditioning, refrigeration, automotive and other systems. AccuTrak® Ultrasonic Leak Detectors are extremely sensitive to the ultrasonic sound of a turbulent gas leak. Using a technology called "heterodyning" the detectors translate ultrasound to a lower frequency which the human ear can interpret. AccuTrak® Ultrasonic Leak Detectors maintain the original sound characteristics of the ultrasound making it possible to distinguish leaks from other competing background sounds. superiorsignal.com

For a single room, or rooms difficult to cool with an existing central air system, the all new Chill® Premier Inverter from **Friedrich Air Conditioning**, is ultra-quiet, adaptive and offers efficient comfort. State-of-the-art Precision Inverter® Technology provides efficient, precise temperature control and Library-Quiet™ sound levels, while convenience comes



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standard with simplified installation, and an adaptable design that allows the window to be opened even after the unit is installed, a clever innovation that helps to deliver complete comfort and control.

Specifications:

Variable comfort technology: The Precision Inverter® compressor operates at precise capacity needed while the Turbo Cool boosts cooling operation by up to 41%.

Friedrich's QuietMaster™ technology combines heavy duty insulation, stiffened sheet metal, optimized air flow and counterweights to dampen vibration. The unit has a "Quiet" mode that operates at ultra-low fan speed for the quietest cooling available. Sound is as low as 32dB on fan only, and 42 dB in cooling mode.

Smart design features: Unlike traditional window units, Chill Premier Inverter features a flexible design that includes a SimpleSill™ Technology that allows the window to be opened and closed after installation. A three-step Installation simplifies the process with a one-piece frame, included hardware and expandable side curtain.

Ultimate efficiency: Chill Premier operates up to 35% more efficiently than traditional window air conditioners. It's ENERGY STAR® certified and uses sustainable R-32 refrigerant.

Smart features include built-in WiFi control, so home occupants can manage comfort from anywhere by using the Friedrich® Go App.

An Auto Air Sweep feature moves the louvers up and down to extend air flow for maximum circulation and cooling. An Intelligent Sleep mode automatically adjusts temperature overnight to maintain optimal body temperatures for maximum rest and the most comfortable night's sleep.

Sources report every unit maintains precise temperature control while providing homeowners peace of mind through a Money Saver® mode that saves energy and money by operating the fan only when cooling is needed. A built-in filter allows homeowners to breathe easy with washable design and automatic clean filter reminders. Friedrich Chill Premier Inverter units are backed by a 5-year limited warranty. friedrich.com

All product claims are made by the manufacturers.



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Heat Pumps

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. americanstandardair.com



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% of the time to keep airflow and temperatures even and consistent while adding humidity control during cooling operation. 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.

IntelliSense™ Technology is the next phase in Carrier's growing family of connected, innovative solutions. IntelliSense'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, servicing. <https://www.carrier.com/residential/en/us/products/air-conditioners/>.



Daikin Comfort Technologies

Inverter-driven Daikin DX/Z9VC air conditioners or heat pumps—featuring state-of-the-art Daikin Inside Technology—deliver terrific indoor comfort, with up to 22.5 SEER2 and HSPF2 8.2 performance.

DX/Z9VC units are compatible with the Daikin One+ or the new Daikin One touch smart thermostats, allowing contractors (with customer permission) to remotely monitor, control, diagnose and commission systems—and allowing customers and contractors to detect, visualize and act on common IAQ issues, automatically or manually.

Features include sweat connection service valves with easy access to gauge ports; top/side maintenance access; and single-panel access to controls. Daikin Inside intelligence constantly monitors the system for trouble spots.

Inverter technology allows lower operating sound levels—while helping prevent common temperature swings—over non-inverter, single- and two-stage units. An ECM condenser fan motor provides quiet, dependable airflow across the condensing coil.

Available in 2-5 tons, Daikin DX/Z9VC units are backed by a 12-Year Unit Replacement Limited Warranty and 12-Year Parts Limited Warranty. NorthAmerica-Daikin.com daikinfit.com



Fujitsu General America

Fujitsu General America's new F-Series heat pumps are DOE 2023 M1 compliant. The redesigned models offer high performance, quiet operation, durability, and even greater ease of installation and maintenance.

F-Series models are available in 14.3 to 18.0 SEER2 efficiency levels. EcoNet and Bluetooth technology provide for rapid installation, monitoring, and maintenance.

Quiet operation is evident at all efficiency levels. Mid and high-tier models feature advanced compressor technologies, including multi-speed twin-rotary or variable-speed scrolls driven with inverter drives, and brushless DC condenser fan motors with swept-wing fan technology that operates at lower speeds.

Durability features for this product begins with a composite base pan to mitigate rust and dampen sound vibration. Full-louver, heavy-gauge coil guards protect the new 7mm copper tube/aluminum fin condenser coil technology while also contributing to the low sound levels of the units.

A 10-year parts and compressor warranty is included, and select models also offer a 10-year conditional unit replacement warranty. fujitsugeneral.com



Friedrich

Friedrich Floating Air® ductless offers three lines of heat pump models with unique features to meet every need. A unique 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%. 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 your customers. <https://info.friedrich.com/ductless-mini-split>



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 benefits—thanks to inverter-driven technology and convenient service features.



Homeowners can enjoy satisfying levels of acoustical 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

Midea

The Midea central inverter heat pump system, including the new IN One-Way Cassette, represents the latest innovations in inverter heat pump technology, offering homeowners and HVAC service providers a flexible, energy-efficient electric heating and



cooling system that doesn't compromise on comfort. Midea heat pumps qualify under the Inflation Reduction Act's criteria, making users eligible for tax credits up to \$2,000 – on top of rebate offerings from utility companies that incentivize homeowners to replace gas or traditional electric HVAC systems using heating strips. The IN Cassette is ready-to-fit into home joist spaces, making it a seamless ductless option for new homes, additions and conversions. With leading energy efficiency (up to 18.4 SEER2), cold climate performance (capable of 100% heat output down to -4 degrees Fahrenheit) and compatibility (able to mix and match with existing ducted and ductless equipment), Midea is making heat pump technology mainstream in American homes. midea.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, with 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 has 15-in. wide industry-leading corner service access, two-fastener removable corner and easily removable individual louver panels to facilitate installation.

Other key components include inverter-driven, variable speed compressor technology, with 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. The units come with a warranty of 10 Year Parts + 10 Year of Conditional Unit Replacement. rheem.com

Improving HVAC Efficiency with Machine Learning

Thermostat control at distributor HQ provides an innovative level of heating and cooling “system” management.

Achieving building automation system (BAS) benefits often presents unique technical and financial challenges for small- to medium-sized buildings. These can include:

- HVAC system designs that do not justify the investment required for a BAS
- Customers that may not want or need additional BAS features
- Up-front costs and multi-year payback scenarios can be a deterrent
- System complexity may drive the need for full-time management.

Such was the case recently facing management at the Brea, California sales office of Russell Sigler, Inc., for 50+ years an independent distributor of Carrier HVAC products, systems and controls solutions for multiple market segments throughout the southwestern United States. Sigler wanted to improve RTU performance, increase employee comfort, lower



Carrier Connect thermostat.

energy usage and achieve an innovative level of HVAC “system” management. Compliance with Title 24—California’s energy code designed to reduce wasteful and unnecessary energy consumption in newly constructed and existing buildings—was a significant contributing factor.

The Sigler team selected Carrier® Connect™ Wi-Fi® commercial thermostats to replace their existing ones. The Connect thermostat’s many features include:

- Intuitive 2.8-in. touchscreen interface
- Smartphone mobile app (iPhone and Android) and web portal
- Title 24 compliance
- Energy use monitoring
- Ease of installation, set-up and usage.

Once the new Connect thermostats were installed, Sigler Brea wanted to further enhance functionality, monitoring and real-time management. To accomplish this, they would synchronize Sigler’s RTUs, transforming them into smart, networked, energy-responsive assets. “Sigler Brea had 13 rooftop units with individually connected thermostats, and wanted to have the enhanced control and energy

management benefits of a traditional BAS, but without the associated complexity, and at 10-20% of the cost.” said Chris Hensley, executive vice president of sales and marketing at Encycle. “Our cloud technology and proprietary and patented algorithms made this a perfect solution to meet all of Sigler Brea’s needs.”

Now at Sigler Brea, the successful integration of the Carrier Connect thermostats with Swarm Logic® Virtual BAS technology has created a solution which dramatically improved their building’s operational—and subsequently—energy efficiency, by executing the following protocol:

- Carrier Connect thermostats collect data from Sigler Brea’s RTUs every few minutes.
- Collected data is sent to Swarm Logic via the cloud.
- This interpreted data defines decisions to optimize each RTU’s operations and returns the decision to Sigler Brea’s Connect thermostat.
- The Connect thermostats adjust the RTUs in accordance with pre-set comfort and energy usage parameters within Sigler Brea’s office space.

“We were excited to maximize our facility’s RTU efficiency by extending the full operational capabilities of the Carrier Connect thermostats with an energy management system,” said Anthony Bermudez, area controls sales manager of Russell Sigler, Inc. “The dashboard is intuitive, easy to use and provides us with a wide range of management tools and important operating data,” he said.

Sigler Brea has realized up to 20% reductions in HVAC kW, kWh, and CO₂, which helps improve their bottom line.

“Access to the portal is easy and secure,” commented Anthony Cerrato, controls sales manager of Sigler Brea. “Our authorized personnel log in on a weekly basis to review summarized trending issues such as energy savings, demand response and RTU performance issues. Right after the initial integration of our Connect thermostats, we were able to identify RTUs which were running when they shouldn’t have been and re-configured them immediately,” he concluded. **CB**

Case study by Carrier. Used by permission and edited. Find entire article online at <https://contractingbusiness.com/21268319>.

Annual Electric Bill Savings:.....	\$5,989
HVAC Electric Usage Reduction:.....	29%
Electric Consumption Reduction:.....	43,671 KWH
Average Peak HVAC Electric Demand Reduction:.....	13%
Overall Building Electric Usage Reduction:.....	8%

Building Systems “Re-set”

Energy savings and comfort solutions saves school \$200,000.

On graduation day 2011, a cataclysmic tornado flattened much of Joplin, Missouri, wiping out the city’s high school and adjacent technical center. Undaunted, the city rebuilt. After three years in temporary campuses, the school opened a new 488,000 sq.-ft. building in September 2014 that houses both the high school and technical school.

The building provided ample space, but proved to be an energy “hog,” generating unusually high energy costs. “We weren’t functioning as efficiently as we hoped that we would for a building this large and that new,” said Dave Pettit, director of facilities for Joplin Schools. Additionally, students, teachers and staff found that building comfort varied from room to room.

District leaders wanted to reduce the building’s energy and operational costs and address indoor air quality (IAQ) concerns while increasing staff productivity. Based on their more than 20-year relationship with Trane, they turned to consultants at the building technology and energy solutions company for answers.

Putting Data to Work

Trane experts recommended that the district start by conducting an Energy Assessment as part of an Intelligent Services approach. The Trane team put building data to work, using existing building sensors to measure facility-wide energy use and identify opportunities to save money, reduce energy consumption and optimize the building.

The Energy Assessment identified multiple issues:

- **Overrides** – In response to building complaints, staff had entered as many as 3,000 still-active system overrides, so the building operating schedule was no longer aligned with actual occupancy requirements. In some cases, overrides were causing heating and cooling to take effect at the same time.
- **High CO₂** – Some outside air dampers were stuck open or closed. Dampers that are stuck open generate hard-to-condition humidity or temperature ranges throughout the building. Closed dampers led to increased CO₂ levels, even exceeding 2,000 parts per million (ppm) in some areas, well above the recommended level of 1,200.

Recommissioning “Re-Sets” Building Systems

Based on Energy Assessment results, Trane recommended recommissioning the building’s infrastructure systems which assesses building systems and returns equipment as close as possible to its original design specifications. Once completed, recommissioning brings an entire system into better balance to improve overall building performance. Once the building was recommissioned Trane worked with staff to ensure that they were prepared to respond to any issues without overriding the system.

Recommissioning resolved the need to override the system since building temperature automatically adjusted in response to occupancy. The recommissioning also addressed issues with



The Trane team put building data to work, using existing building sensors to measure facility-wide energy use and identify opportunities to save money, reduce energy consumption and optimize the building.

stuck dampers, helping ensure that CO₂ levels remained at an appropriate level and optimized IAQ environmental conditions across the campus.

Intelligent Services Agreement Includes 24/7 Active Monitoring

Next, the district undertook Active Monitoring as part of an ongoing Intelligent Services agreement that allows the district to leverage Trane’s energy expertise to continuously optimize building conditions. The Service Agreement engages Trane professionals in maintaining a 24/7 watch over critical building systems to proactively detect issues, analyze system alarms and provide recommendations for troubleshooting issues.

As part of the Active Monitoring process, Trane worked with the district to increase the number of building sensors. These sensors provide real-time information about temperature and IAQ, including humidity and CO₂ levels. The sensors alert Trane and the facilities team when troubleshooting is needed. Once the issue is resolved, the building system accordingly adjusts future programming for continuous commissioning.

Results

Since district recommissioned the building and implemented Intelligent Services in 2018, building management has shifted from reactive to proactive, generating \$200,000 in energy savings (\$50,000/year) over the four years. With building comfort improved and complaints almost non-existing, facilities staff has increased productivity freeing up one FTE day per week. IAQ also has improved now that the building’s systems properly manage CO₂ and humidity.

Based on the success of the improvements, Trane is currently working on building automation system upgrades that will further enhance building performance. **CB**

Case study by Trane. Used by permission and edited. Find entire article online at <https://contractingbusiness.com/21268334>.

Digital Lifecycle Solution

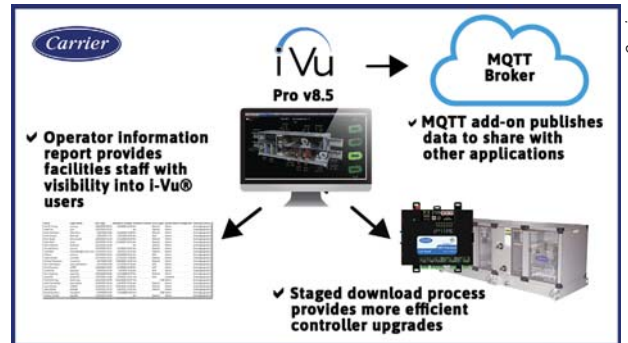
CHARLOTTE, N.C., May 17, 2023 — Carrier announced the release of its latest i-Vu® Pro v8.5 software for the i-Vu building automation system. Carrier sources report the digital lifecycle solution delivers an operator information report for added security, a staged download process for more efficient controller updates and Message Queuing Telemetry Transport (MQTT) integration.

“Our latest i-Vu Pro software demonstrates our ongoing commitment to system security, open industry standards and customer service,” said Mark Jones, business manager, Commercial HVAC Controls, Carrier. “With these latest enhancements, customers can be confident that we are helping to future-proof their i-Vu systems with robust security, Internet of Things (IoT) connectivity and leading serviceability features,” Jones said.

The operator information report provides facilities staff with visibility into who is using the i-Vu system, with detailed information on operator configuration and security policy compliance.

At a glance, facilities staff can see which users are active. Based on report details, they can remove inactive users, modify user access rights and change user privileges to help keep the i-Vu system secure.

The i-Vu Pro v8.5 software includes an efficient staged download process for upgrading controller firmware, improving serviceability for customers. While traditional downloads disrupt HVAC equipment operation throughout the entire download, the new staged process splits the download into discrete steps, which helps reduce downtime of connected HVAC equipment.

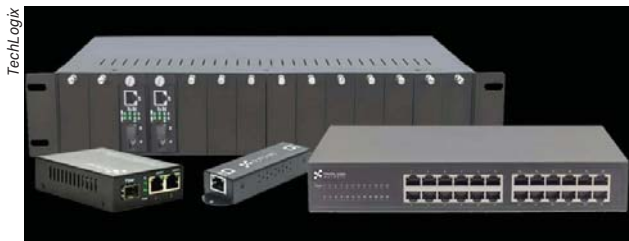


iVu 8.5 delivers an operator information report for added security, a staged download process for more efficient controller updates and Message Queueing Telemetry Transport (MQTT) integration.

Downtime can be independently and proactively scheduled for non-critical times to minimize customer disruption.

The optional MQTT connector add-on enables i-Vu system data to be published to an MQTT broker, a standard component in cloud environments and IoT. Using the MQTT protocol, the add-on streams data from the i-Vu system and automatically formats it to the Sparkplug B specification. The data is enriched with deep context, including semantic tags, and can be used by other enterprise-level applications to inform business decisions. For more information on the i-Vu building automation system, visit carrier.com.

New Networking Solutions



TechLogix network switches manage signal distribution over both twisted pair and fiber infrastructures.

HUNTERSVILLE, N.C., May 18, 2023 – TechLogix Network, a leader in innovative audio-visual, security, and data-com solutions, has launched new networking solutions. New products include 10G media converters, media converter rack mounting trays, and network switches.

“TechLogix provides both 1G and 10G configurations, network switches, and media converter rack mounting trays to fit any need and installation,” said Cameron Smith, NSI vice president.

TechLogix manufactures a variety of media converters for adapting fiber optic and twisted pair signals. Models include solutions for 1G and 10G bandwidth, PoE+ injection, and LC and SC connections. New 10G solutions include the TL-MC10G-1S1R (empty SFP+ slot), TL-MC10G-1S1R-MM (preloaded with

a multimode SFP+ transceiver), and the TL-MC10G-1S1R-SM (preloaded with a single mode SFP+ transceiver).

The TechLogix TL-RKMC-14 rack-mount tray secures and powers up to 14 media converters. The system features two switching redundant power supplies with circuit protection, two high-volume cooling fans, and slot isolation between units.

TechLogix network switches manage signal distribution over both twisted pair and fiber infrastructures. Units include:

- TL-NS5R –POE: five-port unmanaged switch with 30W PoE per channel.
- TL-NS5R1S-POE: four-port unmanaged switch with 30W PoE per channel. Includes one twisted pair and one SFP uplink port.
- TL-NS42-POE: four-port unmanaged switch with 30W PoE per channel. Includes one twisted pair and two SFP uplink ports for daisy-chaining over fiber.
- TL-NS8R: Non-PoE: eight-port unmanaged switch.
- TL-NS8R2U-POE: eight-port unmanaged switch with 30W PoE per channel. It includes two twisted pair uplink ports.
- TL-NS24R2S-POE: 24-port unmanaged switch with 30W PoE per channel. It includes two SFP uplink ports and rack-mounting hardware.

For more information on TechLogix products, visit tlnetworx.com.



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Three Skills for Leadership Development



HVACR distributorships fill a crucial and difficult position in the marketplace by occupying the space between original equipment manufacturers (OEMs) and the end user responsible for installing the equipment. Leaders in this space must possess several skills:

- A wide range of technical knowledge to be a resource for world-class solutions to their customers.
- Excellent profit and loss (P&L) statement understanding to make intelligent financial decisions impacting the bottom line.
- Exceptional customer service skills to build long-lasting, effective relationships with customers, suppliers and employees.

These skills require effort by both distributors and their leaders to obtain and maintain over the long run, as change is a constant. Those who do not improve their skills fall behind those who do and can negatively impact the business and their success in the workplace.

Fortunately, honing the skills of HVACR leaders is manageable and can be broken down into several easy options.

Technical Aptitude

First, technical skills are ever-changing as each new generation of equipment is developed to meet increasing federal regulations. Each generation of equipment is more technically sophisticated than the last, requiring leaders to keep up or be left behind. Fortunately, most manufacturers provide technical training to keep their distributor partners ahead of the curve on changing technology.

Each generation of equipment is more technically sophisticated than the last, requiring leaders to keep up or be left behind.

They are a cost-effective way to keep your leaders sharp on the latest technology trends as well as an excellent opportunity to have them scout good talent from other distributors to fill any open positions. Community colleges and technical schools also provide training tailored to the needs of specific employers. Most two-year institutions are very employer-friendly and will collaborate with you to develop curriculums to meet the needs of your leaders.

Financial Knowledge

Financial skills are frequently overlooked in leader development due to incorrectly assuming that because leaders are often compensated based on their P&L performance, they must understand how the P&L works. While anyone can attain a basic understanding of a financial statement, they still need to understand the impact of decisions such as depreciation, expense versus capitalization costs, or amortization. These skills can easily be enhanced within your organization by creating a mentoring relationship between your existing finance team and your field leaders. The best part about mentoring is that everyone benefits. The field leader gains additional understanding of the financial statements, and the finance team gains additional understanding of what the field faces, making both sides more effective in their positions.

Organization/Communication

Lastly, soft skills can easily be enhanced with off-the-shelf training from various learning organizations such as Skillssoft or Simplilearn. Since soft skills are universal, any training provider should be able to give you a selection of courses that will cost-effectively meet the needs of your leaders.

The important thing to remember is to stay on top of developing your employees. It is easier, less expensive, and more beneficial to build and keep the leaders you have rather than find new ones. **CB**

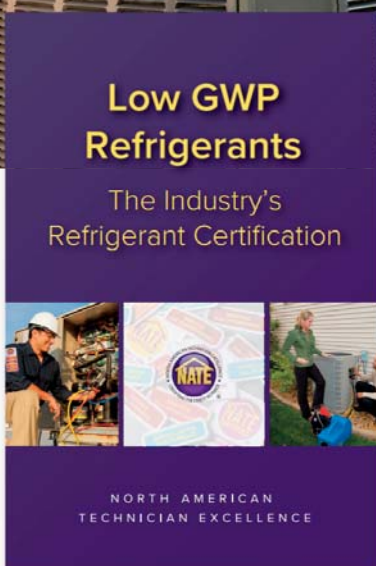


Billy Hamilton is Senior Vice President of Human Resources for Motion. He has over 30 years of experience in human resources with companies such as Overhead Door Corporation and Lockheed Martin. He is passionate about talent management and data analytics. Find Motion at www.motion.com.



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When Technicians Educate Homeowners on HVAC, Business Will Grow

When we fail to fully inform homeowners about products and services, they seek solutions from other sources.



It's the manager's responsibility to prepare technicians for successful interactions.
Photo 110840624 | Customer Care © Ognyan Chobanov | Dreamstime.com

As HVAC professionals, we have a responsibility to inform and educate homeowners about the products and services our industry offers. We owe it to our customers, so they can make informed decisions.

We also have a responsibility to the industry itself. When we fail to fully inform homeowners about products and services, they seek solutions from other sources, such as Amazon, Home Depot, and other big-box or online retailers. That impacts the credibility of the entire HVAC profession and makes profitable operations harder for everyone.

Many HVAC contractors struggle to consistently engage customers on the full range of solutions they can deliver. That can leave customers frustrated and keep labor costs high.

When we fail to fully inform homeowners about products and services, they seek solutions from other sources, such as Amazon, Home Depot, and other big-box or online retailers.

In today's marketplace, repair and maintenance revenue aren't enough for most residential HVAC service departments to operate optimally. A range of accessory products can ensure additional revenue to overcome operational costs and keep service departments profitable. There are long-standing challenges to face, but with a little strategic planning, companies can successfully create and implement supplemental sales to drive revenue and growth.

Equip technicians for success

One of the major obstacles for technicians is a lack of knowledge or familiarity with products they're expected to sell. When they haven't personally used a product or been fully trained on how it works, they'll naturally be hesitant about recommending it to a customer.

Sometimes lack of familiarity can lead to skepticism among technicians. They may regard certain products, especially those perceived as high-dollar products, as unnecessary. Because they don't personally use a product, they may assume no one needs it. Additionally, they may not feel equipped to discuss the benefits of a particular product. If they've simply been told to offer a product without proper training on how it works, they may simply avoid it altogether. It's the manager's responsibility to prepare them for successful interactions with homeowners. When technicians understand the features, benefits, and functionality of what they're selling, and can effectively share that information with customers, everyone wins. That level of engagement with previously unfamiliar equipment may even encourage technicians to adopt additional solutions for their

own homes, leading to greater success with supplemental sales and opening even more revenue opportunities. If they can experience a product themselves, they can speak to homeowners from a testimonial perspective about its benefits.

Service department meetings are a great opportunity to prepare technicians for more focused upselling. Provide hands-on time to familiarize themselves with the product and see its benefits firsthand. It's also a good time for skills training to practice a script and learn how to answer frequent questions.

Full department meetings are also an opportunity to gauge your whole team's response to a particular product or service, and to help reluctant team members see other points of view.

It's not up to us how homeowners spend their money. We should provide them with the information they need and offer our expertise, rather than try to guide their decisions by withholding knowledge. It's not about strong sales techniques or manipulating customers. It's a conversation, based on your professional expertise. Homeowners come to us for our skill and experience. It's critical we make honest recommendations about all the options they have.

Start simple with accessory suggestions

Many homeowners are unaware that point-of-use surge protection is widely available and affordable. When offered the option, they immediately recognize the advantages and are eager to invest in

comprehensive protection for their home's electronic equipment and electric appliances.

But is that because the industry has effectively educated them about the benefits of home surge protection or because they're applying what they have learned from other industries? Power strip-style surge protectors are routinely recommended with the purchase of a new computer or other high-value electronic equipment. Even consumers who ignore the recommendation are aware of the potential risk they're taking.

In our industry, it's far less common for a technician to suggest point-of-use surge protection during a routine service or maintenance call. Homeowners are frequently surprised to learn these solutions are even available. If your technicians aren't actively recommending home surge protection, it's a missed opportunity to build revenue and drive profitability.

When you prepare your technicians to educate and inform homeowners, you'll see new opportunities for sales and growth and will build long-lasting relationships that are essential to success in our industry. **CB**

Shaun Weiss is a head coach and trainer for Business Development Resources (BDR), a premier business training and coaching provider to the home services industry. With 20 years of experience in HVAC and plumbing, he has successfully managed staff sizes of 40 employees and more, and turned failing, unprofitable departments into profit centers. Learn more about BDR at www.bdrco.com.

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Three Ways to Continue Expanding Your HVACR Knowledge

Online training, possible volunteer work, and focused diagnostic skills can improve your value as an HVACR technician.

Every day, it seems HVACR systems are evolving to work with new refrigerants, use less energy, and take advantage of new innovations. Since many customers want to use the best technology to heat and cool their homes and offices, staying up to date on these changes is crucial.

Market shifts also change the way that diagnostic tools are utilized. Staying up-to-date on both the latest HVACR systems as well as the tools used to diagnose and repair them has never been more important. Here are three ways that HVACR professionals can expand their knowledge and stay ahead of the curve.

1. Stay Sharp

Continuing education can help a tech stay in the know and prepared for industry changes. Leveraging online tutorials, podcasts, videos, HVACR training meetings and conferences can help techs to learn the latest trends, stay current on emerging technologies, and utilize existing tools in the best ways possible. One such place is Fieldpiece University: <https://www.fieldpiece.com/fieldpiece-university/>. This online resource was created to help HVACR technicians boost their skills and learn more about Fieldpiece products. These courses explore how each product benefits customers and offer Pro Tips for

a great way to gain experience on a legacy system. In an ever-changing landscape of HVACR technology, familiarity with a range of systems both old and new is yet another important tool in a tech's bag. It can also give an extra sense of accomplishment after a long day in the field. **(CB ed. note: Speak to your manager about this first. And, if you need to use your employer's tools or vehicle, obtain employer's permission.)**

3. Leverage Your Senses

Before a tech opens their tool bag and starts running diagnostic tests, it's important to know what needs fixing. Start by asking questions and really listening. Then use your eyes and touch to verify and pinpoint potential sources of those answers. The customer doesn't need to be an expert in HVACR to answer. Questions about symptoms they can see and feel in their spaces



Staying up-to-date on the latest HVACR systems and diagnostic tools has never been as important as it is today.

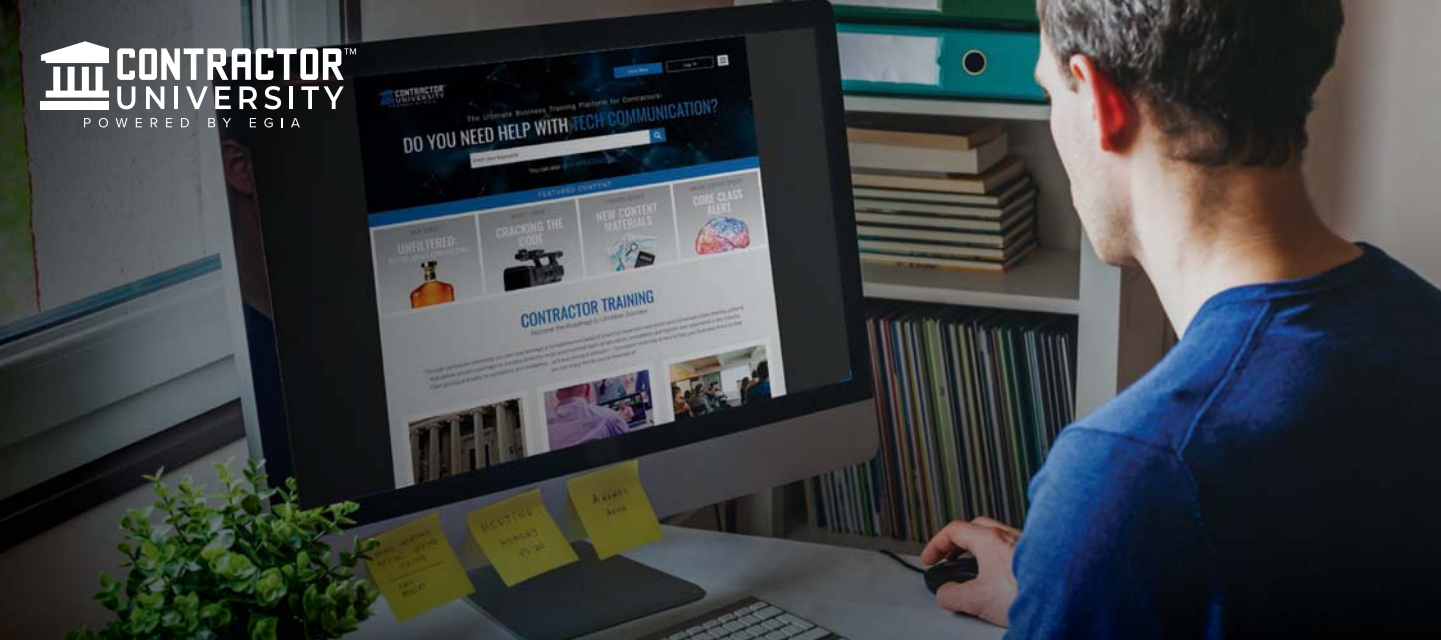
using them correctly in the field. This is an ideal tool for any HVACR professional looking to get the most from the tools they work with every day to get better, faster, and easier.

2. Help Others

Learning on the job is another way to grow. Try volunteering with local charities or churches for pro bono work and for neighbors in need. Helping a family maintain an older furnace through the winter is

may lead to finding the problem. Letting the customer speak typically points in the direction of the real reason for the call. The more useful information that's gathered up front, the easier it can be to find the true cause of the issue. This may lead to a standard service, maintenance or even a system upgrade. Leveraging your ears, eyes, and touch will identify a whole host of potential issues and solutions and help ensure the right solution is put into place.

If you're looking to be a better HVACR tech tomorrow, start learning, helping and listening today. **CB**



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Compel Prospects and Customers to Buy

When it comes to selling to homeowners, salespeople are working with new prospects or existing customers.

New prospects offer the opportunity to serve a new home that is full of potential. This can lead to increased market share and a new referral resource.

Existing customers offer the opportunity to elevate your level of service, expand your relationships, sell additional products, plus solve long-standing problems. Existing customers often cross-pollinate with other services you offer, with a higher probability of buying and spending more money. In other words, existing customers should never be taken for granted in favor of new prospects.

While new prospects may offer new revenue potential and the allure of a large purchase, there are no guarantees they will buy anything. While you invest money and time chasing prospects and not paying attention to existing customers, don't be surprised if those current customers leave you. Why? They may feel indifferent toward your company, or another company poaches them by offering to solve problems you miss.

Plus, if you choose not to offer high-performance products and services to solve pesky problems that present a lower-revenue opportunity on the surface, you miss the chance to turn those small money fixes into larger income projects. Such longer-term scenarios can help your customer build their perfect home environment over time.

Sales Is Like Baseball

In baseball, if you always swing for the fences, you end up striking out more often and hitting fewer home runs. However, if you consistently put the bat on the ball, you will get on base more, drive in more runs, hit your fair share of home runs, and win more games.

In-home sales work much the same way. The customers you serve consistently can eventually turn into a consistent string of base-hit sales, home run sales, or a referral to more base hits and home runs.

Cost Strategies

Regarding the effort to sell new prospects versus customers, prospects require more marketing dollars to convert into a customer. Home services contractors report the average cost to create a prospect can average \$400. That cost increases to an average of \$600 to convert the prospect to a buying customer.

These costs stem from expensive marketing strategies that include direct letters, radius mailers, billboards, radio, television, over-the-top streaming, video-on-demand, digital marketing, newspaper and magazine branding, direct response ads, and more.

Existing customers, on the other hand, cost very little to remarket to. Most companies can flip an opportunity to sell products and services from an email, text, phone call, postcard, letter, tech handout, newsletter or service visit, each of which costs only pennies to a few dollars.

Existing customers also offer low-cost opportunities to create new prospects and customers through yard signs, branded homes (decals, grocery bags, and other in-home branded materials), referral rewards, mailbox/door hangers, as well as trucks (rolling billboards) in neighborhoods.

Appeal to Both Customer Types

How can you appeal to both new prospects and existing customers to drive sales?

Most HVAC contractors are weather-dependent and offer specials to drive business if weather conditions are not doing so. Top-performing contractors are weather-driven and realize that while special promotions can work when the weather doesn't cooperate, it is far better to *be special* and stand out, rather than fit in. They allow the allure of their service, reviews, and referrals to drive business. They are *COMPELLING*, not selling.

These contractors promote their unique people, protocols, products, and processes to pinpoint and correct comfort problems, highlighting that homeowners do not even have to replace their equipment in many cases! Their custom solutions are usually easier, quicker, and cost less than they think.

You do this by pointing out that you are one of the only, or the only contractor (if true) in your area qualified and certified with



the proper tools, training, and technology to diagnose and correct these annoying issues that plague customers' lives.

Taking the "house doctor" approach allows your company to be a premium service provider for the discerning homeowner with distinctive tastes who desires better quality, peace of mind, and a higher standard of living.

Pamper Your Customers

In this economy, with prices soaring and inflation causing mortgage rates to rise, people stay in their homes and invest in making them the way they want it to be. Many such homeowners wish to be catered to, with unique, innovative, problem-solving remedies. Many want pampering through extraordinary service and a caring attitude. In other words, provide an impactful life experience that shatters the expectations. Most homeowners want value, affordability and less risk. They want contractors to do what they say they are going to do. It's in your best interest to be the professional the customer needs you to be and do the right things the right way the first time. Then guarantee your work and customer happiness 100% in writing or provide a full refund if you fall short.

Be the company that says, *"Let us help make your home feel as good as you and your family deserve for your large investment."*

Position your company as *the* high-value solution specialist and the local expert at fixing unsafe, unhealthy, uncomfortable, energy-wasting homes. Talk about the common problems most homeowners experience that other contractors neglect in favor of chasing equipment sales. Address pre-existing conditions and comorbidities that led or will lead to equipment failure. Some problems you should speak to include:

Rooms that get too hot or too cold; cannot maintain consistent comfort; uneven temperatures from area to area; equipment cycles frequently or runs constantly, and the house is still not comfortable; drafts or stuffiness; and more.

More Than Customer Benefits

As you can see from the sidebar, the benefits to the customer are many, but being a performance HVAC company also benefits the contractors and their coworkers. Most typical HVAC contractors wait for the weather to generate service calls to create equipment leads and sales. Then they sell standard entry-level products or promote high efficiency and advanced technology equipment as a silver bullet for comfort and efficiency problems without addressing the duct system or building envelope.

Such a limited business strategy provides for erratic workflow, revenue, and profitability, which creates work overload and shortages.

Neither of these circumstances are conducive to maintaining steady work for coworkers and may even result in layoffs in slow times or people quitting when they are expected to put in overtime to cover for staff shortages.

Be More Compelling

Performance contractors know that HVAC and IAQ equipment will only work as effectively and efficiently as the design, installation, duct system, equipment-tuning, and building envelope allow. They know that installing high-efficiency advanced-technology equipment on a poor duct system and in an archaic building envelope

is a recipe for wasting energy more efficiently (the equipment is more efficient, but the energy bills will not benefit from its full potential) and shortening the life of that equipment. Their creed of "do no harm, make things better, and leave people happy" would never allow them to do so.

The above reasons are why performance contractors relentlessly pursue existing customers over new prospects. When these contractors find problems that an antiquated industry has long neglected, they cannot turn their backs on suffering people.

Instead, they are more compelling, they apologize on behalf of the industry and commit to being better by genuinely serving the people.

Go forth and do likewise!

If you're ready to learn more about customer service, tech communications and mastering the in-home sales process, visit MyContractorUniversity.com/CBS now to start a free 30-day trial with Contractor University. You'll instantly unlocked access to powerful resources including streaming on-demand classes, proven marketing strategies and much more! **CB**

Drew Cameron is "North America's Most Sought-After Sales and Marketing Strategy and Success Advisor to Home Services Contractors," through his work as the founder and CEO of Flow Odyssey, president and co-owner of Energy Design Systems, LLC, and board member, Foundation board trustee, Contractor University Founder and Faculty member, and Resident Expert of Contractor Connect for Electric & Gas Industries Association (EGIA). Contact dcameron@egia.org.

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Supermarket Finds Benefits From A2L Refrigerant

A2L refrigerant proves a worthy replacement to R-744 carbon dioxide in UK supermarket.

The legacy R-744 carbon dioxide (CO₂) system, still commonplace in the industry, could potentially be outperformed by A2L HFO refrigerants on a number of metrics, including overall energy efficiency, a study by independent consultants predicted. The results of the 2021 upgrade, representing a world-first switch from R-744 to R-454A in a supermarket application, proved more promising than had been expected. The upgrade brought the following system improvements:

- 34% energy saving
- Yearly energy saving: £41,7k (\$52,000)
- Lifetime CO₂ eq saving: 1,099 Total Cost of Ownership²
- Total Cost of Ownership saving (20years): £1,33M (\$1.7 million)
- Potential saving projected over entire ASDA fleet: £776M (\$989,322).

Since the implementation of the European F-Gas regulation EU 517/2014, the direct emissions ratings of refrigeration systems have become synonymous with their sustainability. The GWP rating of refrigerants has taken center stage as the end-all criteria in the fight against climate change. This has led to a heavy focus simply on global warming potential in the event of a refrigerant leakage, without due consideration to total emissions being produced every day, including the power consumed by a refrigeration system.

There are also new proposals from the EU to further limit the quantities of refrigerant gas available on the market, which are under consideration for the next iteration of the F-Gas regulation, due in 2024. Post Brexit, UK authorities are conducting a similar review and will apply the EU agreement as a benchmark for their own regulations, which could decisively impact the current Great Britain quota.

Shopping Around

In 2007, major UK retailer ASDA, continuously committed to addressing the grand challenge of our time, opened their flagship sustainable store-of-the-future in Bootle, Merseyside. As is common practice, ASDA opted for a “natural” refrigerant, R-744 CO₂.

The system operated with a stable energy profile over 14 years, but high maintenance requirements and degradation led to a search for sustainable refrigeration.

A previous study by independent consultants Wave Engineering was conducted for ASDA comparing the Total Emissions (TEWI) and Total Cost of Ownership (TCO) of various alternatives. Analysis from data collected by Wave in such studies was published by Chemours in a white paper, “*The Path to Reducing Climate Change Emissions from Commercial Refrigeration Applications*”.

This report showed that viable alternatives to R-744 CO₂ exist and that newly developed A2L refrigerants based on HFO technology such as those in the Opteon™ XL range can offer an excellent balance of sustainability, safety, and total cost of ownership. The pioneering work of ASDA and partners has overcome barriers to using new fluids in retail refrigeration.

Taking Stock

ASDA's Bootle supermarket initially deployed a transcritical R-744 CO₂ booster system during the 2007 reconstruction, comprised of two centralized medium temperature racks and one low temperature rack with one common remote gas cooler.

The system functioned as expected, but regular inspections and maintenance identified that the system's insulation had degraded over time, leading to significant deterioration of the equipment. During its 14-year lifetime the system proved maintenance-hungry



ASDA's Bootle supermarket initially deployed a Trans-critical R-744 CO₂ booster system during the 2007 reconstruction, comprised of two centralised medium temperature racks and one low temperature rack with one common remote gas cooler.

and required the replacement of the gas cooler after just five years, due to corrosion and vibration damage.

To maintain the Bootle location as their flagship sustainability-focused supermarket, with a key focus on energy efficiency and safety, ASDA chose to revamp the entire site in 2021, and install brand new low-GWP refrigeration systems using Opteon™ XL40 (R-454A) throughout, with each system engineered to meet the requirements of F-Gas, BSEN-378, ATEX and DSEAR.

It is likely that ASDA Bootle is the world's first large supermarket to fully operate in a direct expansion configuration on a low-GWP A2L refrigerant. Proudly, ASDA Bootle can decisively claim another impressive title: being the first store that has replaced a transcritical CO₂ refrigeration system with an A2L HFO-based solution, and seeing significant and immediate results. **CB**

Case study provided by Chemours.



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An impressive sales record, appearance, and openness and cooperativeness during the time of information sharing is important.

Finding the Right HVAC Sales Pro

Have you lost sales that you should have gotten due to lack of time to do the proper follow-up? Then why not hire a full-time sales professional who is dedicated exclusively to bringing high dollar, high profit sales into your company?

If you've got at least six service technicians working full-time on residential service, two installation crews, and 1,000 residential service agreements, your company can support a full-time residential replacement salesperson.

Your odds of finding and hiring someone who is already selling \$1,000,000+ per year in residential replacements are slim. That limits your choices to people who already know HVAC but don't know sales, or someone who already knows in-home sales, but doesn't know HVAC. Which are you more qualified to teach, sales or HVAC? If you're like most people, you answered "HVAC."

Here is a way to find someone who knows enough about sales that you only have to teach the basics of HVAC.

Have these support materials ready to use during the interview:

- Sample service agreements
- Service agreement customer list
- Product brochures
- Training materials and outline of training program
- Sales log
- Proposals from recently sold jobs
- Commission breakdowns from those jobs
- Lead log
- Advertising samples
- Online subscription to *Preston's Guide*.

Run a newspaper classified ad in this precise format:

Note the following clarifications on the ad copy:

OUTSIDE SALES

- Company provided leads
- 90% of our prospects buy!
- 100% financing
- 100% customer guarantee
- \$200 average commission
- Training provided

No industry experience required, but in-home residential sales experience a must! For details over the phone, call (your name), at:

Your company name
Your company phone
Your company address

- "90% of our prospects buy" means that 90% of the people we provide estimates to make a decision to purchase that season—not necessarily from us, though. This is a significant benefit the job of residential replacement salesperson has over many sales jobs in other industries. Where most salespeople are in the unenviable position of trying to "create a need and an interest" for a product the customer will get along just fine without, everyone needs our product and few people are "just looking."
- "100% financing" means that the product can be financed with no down payment—not that there are no "credit rejects."
- "\$200 average commission" is used here as an example. Even if you don't currently have commissioned salespeople, determine what the average commission would have been on all your residential replacement jobs sold over the last 30-90 days and use that figure. Tell your receptionist you are running an ad for sales people and how you would like the calls taken. Screen applicants over the phone. Minimum requirements for an in-person interview are:
 - Direct sales background, preferably in-home, on straight commission, selling a high-ticket item involving financing and prospecting.
 - Has won sales awards
 - Good telephone personality
 - Assertiveness—the applicant should gently push for an in-person interview.

Applicants with HVAC experience must be at least twice as impressive as those without. Keep your side of the conversation brief. Let the applicants talk all they want. At this time, your purpose is to gain information, not give information. If they ask, which they should, tell them your company's history.

Don't give them directions on how to find your shop. Residential salespeople need to figure things out for themselves and to read a map. Don't go into much more detail about the job than what appears in the ad, especially when it comes down to money. This is done not to withhold information, but salespeople need to be willing to go out make a presentation without pre-judging an appointment's financial potential. Be yourself, be friendly, but don't appear too anxious or impressed.

Have job applicants fill out a job application, even when they have a resumé. Review the application before meeting the applicant. Look for:

- A timely arrival. What can you expect from applicants who arrive even one minute late for a job interview? Shouldn't they be early?
- Attractive handwriting. My unscientific study has shown a direct correlation between really ugly handwriting and sales. I think it's because, once the sales person leaves the home, the only thing the customer has is a handwritten proposal. Everything presented to the customer must be pleasing to the eye
- Completely filled-out application. Shouldn't prospective employees be demonstrating their cooperativeness right now? What kind of response can you expect from someone who wrote "see resumé" in the "job history" section of an application, when that person, now an employee, is asked to begin doing a new paperwork procedure that the person feels is redundant?

When you meet the applicant, be aware of your first impression. Note their attire and cleanliness. Watch for good eye contact. Are they prepared with note paper and pen? Do they have an air of professionalism? Attempt to conduct a role play exercise, in which they demonstrate one or more of their best closing techniques. Do they have a high closing ratio at their current job?

Ideally, the candidate will ask about your payment and commission structure. Explain it. Give them a "homework" assignment, in

which they draw a diagram of their own home, drawn to scale, with equipment model and serial numbers from the applicant's home.

Take note of any mistakes, uncooperativeness or annoying mannerisms. They will be there from now on. This is your one chance in life to be completely judgmental. This is the best you will ever see them. Have they won sales awards? What's their usual closing ratio? Check their references. Did they send a "thank you" letter or make a follow-up phone call?

At the second interview, ask the applicant their feelings about the job. Tell them your concerns, check their homework, and then, check their mechanical aptitude by having them remove some equipment panels and change a filter.

Don't hire anyone who: you don't like, or who is "weird," or a "typical salesman," is someone you feel intimidated by, or that you won't feel proud to introduce to your service technicians. And remember, your goal is to hire someone who wants to be a salesperson, not a manager. **CB**

Edited for space considerations. Find entire article online at <https://contractingbusiness.com/21268167>.

Charlie Greer was voted "Favorite Industry Sales Trainer," "HVAC Consultant of the Year," and is a member of the Contracting Business Hall of Fame. For info on Charlie's products or services, call 1-800-963-HVAC (4822) or go to www.hvacprofitboosters.com. Email you questions or comments to charlie@charliegreer.com.



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Once corrections are made, the system should be balanced. When all these things are done right, you will have a happy inverter system and a very happy customer.

Inverter Technology: A Tale of Two Systems

Inverter technology is among the biggest leaps forward for the residential HVAC industry in years. Properly installed inverter systems coupled with variable-speed fans can ramp up and down to match a home's load, even as it changes throughout the day. These systems can better adapt to shoulder seasons and can be installed with multiple heads on a single condensing unit.

The key words in the paragraph above are “**properly installed.**” Unfortunately, we are seeing an epidemic of inverter systems that aren't living up to the promise. In fact, many perform worse than the traditional units they replaced.

An Improperly Installed System

Based on feedback from both contractors and manufacturers, there are an excessive number of inverter systems having callback issues and warranty claims. Most of these issues have little to do with the equipment itself. In most cases, the cause is air distribution.

The most common issue is high static pressure at the return and supply side of the system. Not only do these statics make it virtually impossible to get correct airflow through the air handler, but high statics also cause blower motors to over-amp, drawing many times the power they are designed to operate with. On the condensing side, compressors are constantly cycling as they hopelessly try to match refrigerant flow to the load.

These systems become inefficient in this scenario and prone to early compressor and indoor fan motor failure. In addition, the low airflows create significant comfort issues throughout the home, with some registers getting little to no airflow. Of course, every home is like a fingerprint, so these problems vary from home to home.

The bottom line is these highly touted super-efficient and responsive systems are getting a black eye at an alarming rate. Some other installation issues contribute to this, including improper controls setup, bad thermostat matches, etc., but most problems stem from a mismatched air distribution system.

A Properly Installed System

So, what can be done? For starters, before installing a new inverter system, be sure you take a look at the design. Start by calculating the building load using real-world conditions, not a bunch of assumptions. Then you can determine the correct equipment size. Correct sizing can be done using ACCA Manual S.

After selecting the proper equipment size, you must evaluate the air distribution system to ensure it's sized for correct static pressures and airflow. In many cases, return and supply plenums and transitions must be redesigned. Other modifications are often needed to make the system work correctly.

Once you make corrections and install the new equipment, you must balance the system to provide the best possible comfort levels throughout the home. When done correctly, you will have a happy inverter system and a very happy customer.

If the original equipment was oversized, and you downsize the new inverter system, there's a good chance you may not need to make major modifications to the duct system as it may match well with the new equipment. You may still need to change a few transitions and/or seal some of the ductwork. In many cases, downsizing equipment will create a “**Goldilocks**” effect, where the duct system is now just right.

After selecting the proper equipment size, you must evaluate the air distribution system to ensure it's sized for correct static pressures and airflow. In many cases, return and supply plenums and transitions must be redesigned.

Of course, the process described above requires good training and the right tools to perform the testing to help insure the “**whole system**” is matched, from the condensing section to the air handler to the air distribution system.

When you think about it, over the past few decades, there has been a considerable focus on matched systems, driven by AHRI (Air Conditioning Heating & Refrigeration Institute) and equipment manufacturers, which is good. As a contractor, there is a third component you need to match to the first two to make an inverter system work properly. That component is the air distribution system. When all three work in unison, the results are truly amazing! **CB**

Dominick Guarino is President & CEO of National Comfort Institute (NCI) (www.nationalcomfortinstitute.com), the nation's premier High-Performance training, certification, and membership organization focused on helping contractors grow and become more profitable. His e-mail is ncilink.com/ContactMe. For more info on Performance-Based Contracting™, go to WhyPBC.com or call NCI at 800/633-7058.

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