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Recirculation Pump.**

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**New**  
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**New**  
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**Smart-Circ™**  
Intelligent Hot Water

**New**  
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**Optional**  
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NOTE: Model shown includes pump.



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## Signature Mechanical Installs Radiant, Sprinklers for Dream Home

SPECIAL TO CONTRACTOR

SAVAGE, MN — A brand new home located in an up-and-coming community south of the Twin Cities is a show-stopping 4,696-square-foot house of a long-time builder and his family of six. Construction began in the fall of 2015 and was completed in the summer of 2016.

When any builder constructs his or her dream home, **► Turn to Signature, page 14**



An exterior shot of the single-family, 4,696-square-foot home.

## Sal Gattone Elected President of PMI's 2023 Board of Directors

SPECIAL TO CONTRACTOR

LOUISVILLE, KY — Plumbing Manufacturers International (PMI) announced the election of Sal Gattone as president of the 2023 PMI Board of Directors during PMI's 68th Annual Meeting of the Membership yesterday. The leader of research and development projects at LIXIL, Gattone succeeds Martin Knieps, senior director, operational excellence, Viega LLC. Knieps will remain on the board as immediate past president. The meeting was held during the PMI22 Manufacturing Success Conference in Louisville. In addition to Gattone and Knieps, the other members of the 2023 board will be board vice president Chip

**► Turn to Sal Gattone, page 42**



Sal Gattone, leader of R&D at LIXIL, and newly-elected president of the 2023 PMI Board of Directors.

## Taco Mourns the Loss of John Hazen White III

SPECIAL TO CONTRACTOR

CRANSTON, RI — The White family and Taco Comfort Solutions have released a statement announcing the sudden passing of John Hazen White III, 35, on Thursday, November 3, 2022.

White was born in Providence, RI on September 30, 1987. He was a graduate of Moses Brown School in Providence and Wheaton College in Norton, MA. He began his career with Taco during his high

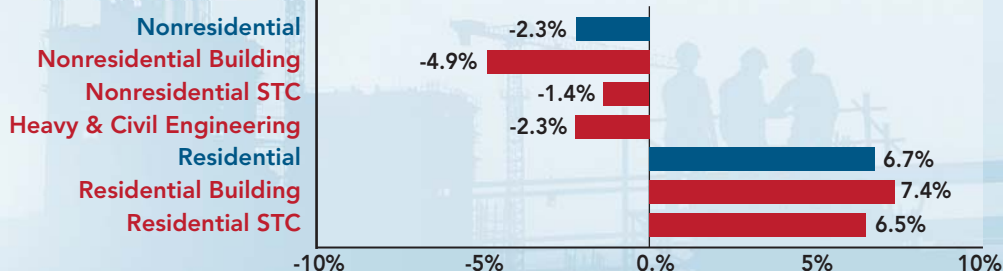
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John Hazen White III.

### CONTRACTOR INFOCUS

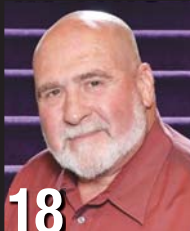
#### U.S. Construction Employment February 2020 vs. September 2022



(STC - Specialty Trade Contractors)

Source: U.S. Bureau of Labor Statistics

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# CUT THE CORD AND KEEP ON WORKING



## Gen-Eye X-POD Plus®



**NEW** Gen-Pack™  
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For more information, visit [www.drainbrain.com/XPodPlus](http://www.drainbrain.com/XPodPlus), or call the Drain Brains® at 800-245-6200



# PHCC Names Contractor, Apprentice of the Year

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For his outstanding leadership and professionalism to the plumbing industry, **Ray “Toz” Toczylowski**, owner of Marines Services Company in Manassas, Virginia, was honored as the Plumbing-Heating-Cooling Contractors—National Association (PHCC) 2022 Plumbing



Contractor of the Year. Co-sponsored by PHCC Executive Sponsor Delta Faucet, the award was presented at PHCCCONNECT2022 in Charlotte, North Carolina.

As announced at the awards ceremony, “the principles that the Marines embrace—  
➤ **Turn to PHCC, page 16**

# Sonnhalter Receives \$40K H4H Donation

■ SPECIAL TO CONTRACTOR

CLEVELAND, OH – Sonnhalter, a communications firm marketing to the professional tradesman in the construction, industrial and MRO markets, received more than \$40,000 worth of donations from Supply Smart to benefit the Greater Cleveland Habitat for Humanity.

Supply Smart is a nationwide distributor of residential plumbing and HVAC products for the professional. The donation consisted of more than 25 pallets of faucets, sinks, bath, drain and  
➤ **Turn to Sonnhalter, page 12**



Pallets of plumbing supplies arriving at the Sonnhalter warehouse.

# Viega, RIDGID Donate to Support Tools & Tiaras

■ SPECIAL TO CONTRACTOR

Whoever said that tools aren’t for girls has never met Judaline Cassidy. Cassidy is the chief visionary officer of Tools & Tiaras Inc., an organization whose mission is to advance the interest of girls ages 6-14 who want to pursue careers in traditionally  
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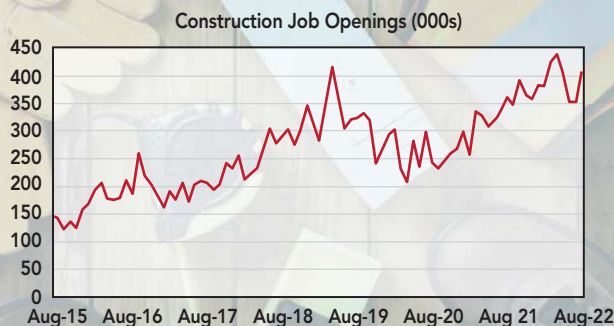


Two young attendees at the Tools & Tiaras event.

## CONTRACTOR INFOCUS

### U.S. Construction Job Openings, 2015 - 2022

- From 2015-2019 the number of unfilled U.S. construction jobs averaged 227,00.
- In 2020 there was an average of 258,000 unfilled construction jobs.
- As of August 2022, there were 407,000 unfilled construction jobs.



Source: U.S. Bureau of Labor Statistics

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## Editorial Offices

### EDITORIAL STAFF

Group Editorial Director-Buildings & Construction  
Mike Eby, meby@endeavorb2b.com

### Editor-In-Chief

Steve Spaulding, sspaulding@endeavorb2b.com

### Editor-At-Large

John Mesebrink, jmesenbrink@endeavorb2b.com

### Contributing Writer

Kelly Faloan

### COLUMNISTS

- Al Schwartz, Management • Scott Milne, Plumbing •
- Pat Linhardt, Hydronics • Patti Feldman, Technology •
- Matt Michel, Marketing •

### Art Director, Susan Lakin

Marketing Coordinator, Susan Johnson

Ad Services Manager, Deanna O’Byrne

Production Manager, Sam Schulenberg

Classified Production Designer, Terry Gann

Audience Development Manager, Sonja Trent



Endeavor Business Media, LLC

CEO, Chris Ferrell

President, June Griffin

CFO, Mark Zedell

COO, Patrick Rains

Chief Administrative and Legal Officer, Tray Kane

EVP, Group Publisher - Design & Engineering, Energy, Buildings & Construction, Reggie Lawrence

VP, Buildings & Construction, Mike Hellmann

VP, Production Operations, Curt Pordes

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Cust. Serv.: Endeavor Business Media, P.O. 3257, Northbrook, IL 60065-3257 U.S.

Phone: 847-559-7598 • Toll Free 877-382-9187 (Outside U.S.) • Fax: 847/564-9453 contractor@omeda.com

CORPORATE OFFICE: Endeavor Business Media, 331 54th Ave N., Nashville, TN 37209, U.S. www.endeavorbusinessmedia.com.

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## In Brief

**NTEA**, the Association for the Work Truck Industry, has announced support for legislation to combat the rise in catalytic converter theft. The Preventing Auto Recycling Theft (PART) Act (Senate Bill 5024)—introduced by U.S. Senators Amy Klobuchar (D-MN) and Ron Wyden (D-OR)—is designed to help law enforcement more effectively trace stolen converters and address these thefts.

The **Residential Energy Network, Inc. (RESNET)** and the **Building Talent Foundation (BTF)** announced a new collaboration to promote Home Energy Ratings System (HERS) careers, connect job-seekers with employers in the sector, and improve engagement and retention. A key component of the collaboration will be a RESNET-branded landing page on *JobsToBuild.com*, BTF's career platform.

**Malco Products, SBC**, has announced that Bill Sharpe was recently appointed to its board of directors. Sharpe is a co-founder of Pathfinder Companies and Pathfinder Consulting, a Minnesota-based, privately-held investment and advisory firm that provides long-term capital to privately-held family and entrepreneurial companies.

**TSG Consumer Partners** and **Oak Hill Capital** have announced that the firms have made a significant minority investment in **The Wrench Group**, a leading provider of residential HVAC, plumbing, and electrical services. As part of the transaction, existing investor **Leonard Green & Partners**, along with management, will retain a majority interest in the Company. The terms of the transaction were not disclosed.

**Bradley Corporation** has promoted Latisha Rathell to Director of Customer Service. Rathell brings over 20 years of experience in financial and business analysis, reporting, project management and contract performance management roles. She brings a diverse background in regulatory, service, product surveillance, as well as customer service leadership. Prior to joining Bradley in 2020 as product compliance analyst, Rathell worked in various leadership roles at **General Electric**.

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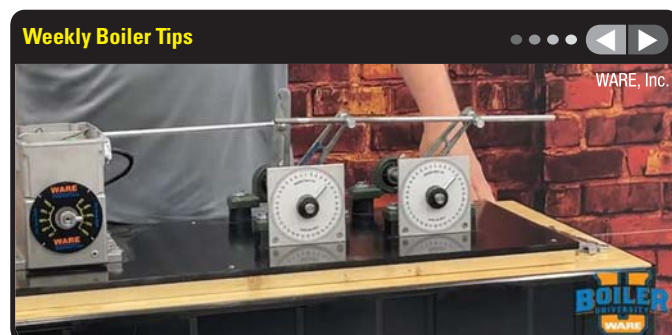
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## Top Stories

- Leadership Changes at Milwaukee Valve
- USGBC Readies Stakeholder Input for Federal IRA, IJIA Funding
- Home Service Category Remains Resilient as Economy Slows
- Johnson Controls OpenBlue Accredited by Global Smart Building Standards Organization

## Videos & Media Galleries



For the latest news on the federal and local response, code and regulation developments, opinions and best practices from industry experts and more, bookmark **CONTRACTOR'S Coronavirus News Page**: [www.contractormag.com/covid-19](http://www.contractormag.com/covid-19).

## Monthly Plumbing Quiz: 2022 in Review

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## INDUSTRY PERSPECTIVES

- ▶ Want to know what is on the mind of Ed O'Connell, business coach and consultant?
- ▶ Want to know about how to get the flow rates right in hydronics from master trainer Steve Swanson?
- ▶ Want to know what the 14 characteristics are of a professional plumbing company? Matt Michel will tell you.

If so, our Industry Perspectives page is the place for you! Visit Industry Perspectives today at

[contractormag.com/industry-perspectives-0](http://contractormag.com/industry-perspectives-0)

Want to converse with experts in the plumbing and hydronics industries? Then check out **CONTRACTOR'S Industry Perspectives**, serving up thoughtful, conversational content from the industry experts you have gotten to know so well at [www.Contractormag.com](http://www.Contractormag.com).

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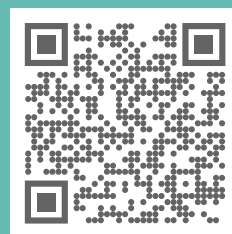
No need for a buffer tank by eliminating cold water bursts for continuous hot water even in stop and start situations



<sup>1</sup>Based on comparison of Rheem® IKONIC™ S/SR models against similar models from leading tankless competitors.

<sup>2</sup>Outdoor conversion kit required. <sup>3</sup>Please refer to Use & Care Manual for additional details and instructions.

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# Best (and Worst) of 2022

BY STEVE SPAULDING OF CONTRACTOR'S STAFF

2022 was an interesting year to be in the plumbing and mechanical trades. Most contractors had a successful year, with ABC reporting high backlogs and high optimism among its members, even in the face of economic headwinds. On the one hand, most of the supply chain problems from 2020-2021 seem to have worked themselves out; on the other, inflation is beginning to eat away at everyone's profits. And finding skilled labor remains one of the most difficult parts of running a business in the industry.

Here's a short list of the best and worst of 2022. As for what 2023 might bring, be sure to check your January issue of *CONTRACTOR* for our Industry Forecast and big AHR Expo Preview.

*As we get ready to turn the page, let's look back at some of the highs and lows of 2022.*

## The Best

### The (semi-official) end of the pandemic.

In September, President Biden declared the end of the Coronavirus Pandemic in an interview with *60 Minutes*. "The pandemic is over," the President said, while adding, "we still have a problem with COVID. We're still doing a lot of work on it." While some medical experts—including retiring director of the National Institute of Allergy and Infectious Diseases at the National Institutes of Health, Dr. Anthony Fauci—assert that we are still in the midst of a pandemic, all states have lifted their masking requirements. The federal government's nationwide mask order for public transit, commercial flights and transportation hubs was struck down by a federal judge April 18.

### Contractor confidence.

ABC's Construction Confidence Index reading for sales increased in October, while the readings for profit margins and staffing fell. All three readings remain above the threshold of 50, indicating expectations of growth over the next six months. "Contractor survey data indicate that while backlog declined in October, it remains reasonably healthy," said ABC Chief Economist Anirban Basu. "Moreover, the average contractor continues to expect sales, staffing and margins to grow over the next six months. Time will tell whether this lingering optimism is justified."

### The coming tsunami of infrastructure money.

Back in November of 2021, Congress passed, and the White House signed the Infrastructure Investment and Jobs Act, which included \$55 billion to expand access to clean water, with a push to remove and replace all the lead service lines in the nation. In August of this year Congress passed and the White House Signed the Inflation Reduction Act. That piece of legislation had several aims, including reducing the deficit, increasing the affordability of prescription drugs, and combating climate change. Those climate change provisions include \$9 billion in home energy rebate programs for energy efficient technologies, including heat pumps and other high efficiency water heating technologies.

### The push to electrification.

While it's true that organizations such as the PHCC are pushing back against natural gas bans (see "The Worst" column), the amount of federal money pushing electrification (see above) makes the installation of heat pumps a possible big money-maker for contractors doing replacement or new construction. The combination of more expensive equipment and more complex installation means higher profits for those companies able to perform the work. While some electrical experience is usually needed, many manufacturers are creating heat pumps that have their HVAC components isolated, so the installer doesn't need to worry about refrigerants or condensers.

## The Worst

### Inflation.

The annual inflation rate for the United States is 7.7% for the 12 months ended October 2022, after rising 8.2% previously, according to US Labor Department data published Nov. 10. That is a better-than-expected number following June's 9.1% inflation rate, but well shy of the Fed's 2% target. Expect the Fed to continue to raise the core interest rate until inflation is well under control—although perhaps not as dramatically as 75 basis points (which it has done four times this year).

### Natural gas bans.

In April, New York Governor Kathy Hochul released a budget including a plan to make New York the first state to ban natural gas and other fossil fuels in new construction. The push towards electrification was a component of the federal Inflation Reduction Act signed into law in August (see above). Under a proposal unanimously approved from the California Air Resources Board (CARB) in September, the state of California voted to ban the sale of all natural gas-fired space heaters and water-heating appliances by 2030. The bans are part of a drive to curb greenhouse gas emissions, yet many industry advocates (including the PHCC's Vice President of Regulatory Affairs Chuck White) believe that the bans will limit consumer choices, and may not drive the desired outcomes. "Heat pumps are everyone's answer, and yes, heat pumps will work," said White in *CONTRACTOR*'s November Forum, "but they are not inexpensive and not trouble-free. At the end of the day, huge amounts of additional electricity will be needed."

### Decline in new building starts.

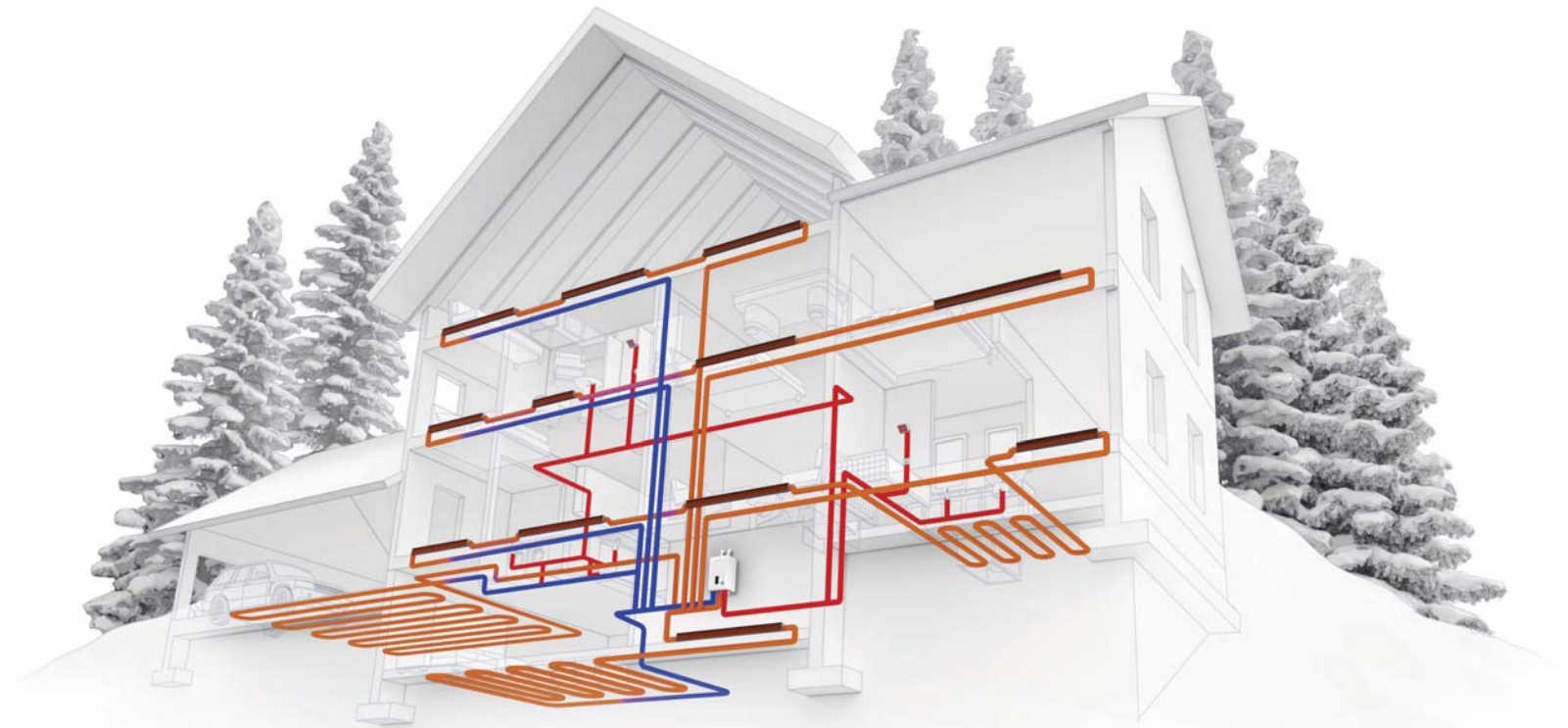
According to data from the Census Bureau, privately-owned housing units authorized by building permits in October were at a seasonally adjusted annual rate of 1,526,000, which was 2.4% below the revised September rate of 1,564,000 and is 10.1% below the October 2021 rate of 1,698,000. Privately-owned housing starts in October were at a seasonally adjusted annual rate of 1,425,000, which was 4.2% below the revised September estimate of 1,488,000 and is 8.8% below the October 2021 rate of 1,563,000. Billings at architecture firms softened considerably in October with an ABI score of 47.7, as firms reported the first decline in billings since January 2021.

### Good help remains hard to find.

Back in February, a model put forth by ABC predicted a workforce shortage of nearly 650,000 construction workers in 2022. The Bureau of Labor Statistics predicts roughly 48,600 openings for plumbers, pipefitters, and steamfitters each year, on average, over the coming decade. At the same time, the average age of a Journeyman plumber in the US is 42, meaning a significant number in the Baby Boom cohort have already retired, with Gen X looking to retire in only a few years. Without enough young people taking up the trade, the skills shortage looks like it will only get worse.



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# WorldSkills Competition 2022 Special Edition Concludes

LAHR, GERMANY —The International Association of Plumbing and Mechanical Officials (IAPMO) participated in the Plumbing and Heating event at WorldSkills Competition 2022 Special Edition (WSC2022SE), Nov. 2-4 at GROHE Technikum in Lahr, Germany. The competition showcased national

champions from 20 member countries.

IAPMO CEO and World Plumbing Council (WPC) Deputy Chair Dave Viola relished the opportunity to present medals to the winning champions, concluding a thrilling three-day competition at the celebratory closing ceremony on Saturday, Nov. 5. Viola was

joined by IAPMO Chief Administrative Officer and WPC Secretariat Gaby Davis, as well as IAPMO President David Gans and Vice President Steve Panelli.

## Gold, Silver and Bronze

Plumbing and Heating competitor Florian Bliem of Austria captured the gold.

Joint silver medals were awarded to Tom Pean of France and Marton Offner of Hungary, and the bronze medal was won by Tai-Yu Chen of Chinese Taipei.

Indicative of the high standard of this year's long-awaited, rescheduled competition, six additional entrants were awarded medallions for achieving a final assessment above WorldSkills' bench-

## IAPMO crowns the new International Plumbing Champions.

mark for excellence: Sangyeop Kim (Korea), Saku Hurtig (Finland), Luca Herzog (Switzerland), Connor Cruden (United Kingdom), Fabian Grün (Germany), and Yuto Itahashi (Japan).

"What we are seeing today at WorldSkills is the best of the best, showcasing their skills and inspiring other people to do their best quality work," Gans said. "We are looking at the future of plumbing, and plumbers."

## New Training Activity

The event also showcased a new Plumbing Champions training activity, sponsored by the WPC and delivered by the International Water, Sanitation and Hygiene Foundation (IWSH), charitable arm of IAPMO. Three students, —all from Ukraine—were sponsored to participate in an educational workshop completing the same test project as was tackled in the WorldSkills competition.

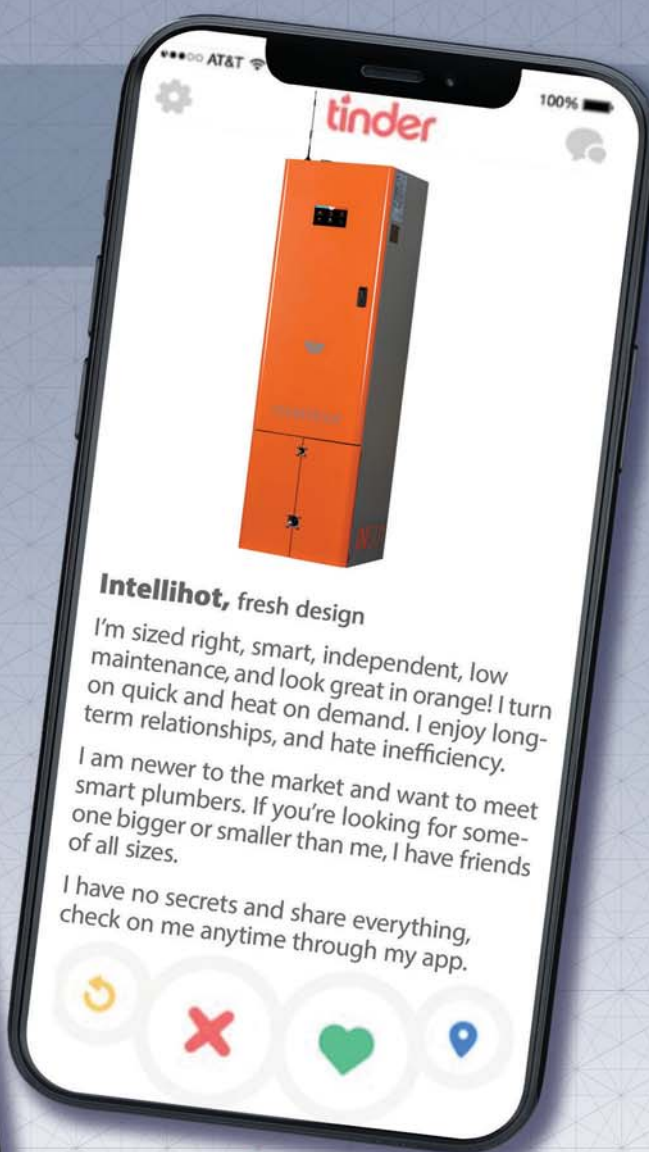
Mayor of the city of Lahr Markus Ibert paid a special tribute to the Ukrainian group in his closing remarks.

"I would like to thank all participants who made this special event possible, and I wish you all the best for your ongoing life; success, and peace—especially to our guests from Ukraine. To you, to your families and your neighbors, have a good time, in peace, and with benefits, for a good life."

The WorldSkills competition returns in September 2024, when it will be hosted in Lyon, France.

For more information visit [worldskills.org](https://worldskills.org). 

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# AHR Announces 2023 Innovation Awards

**W**ESTPORT, CT – The AHR Expo (International Air-Conditioning, Heating, Refrigerating Exposition) has announced the winners of the 2023 AHR Expo Innovation Awards. Each year, winners are chosen in ten industry categories to represent the most innovative products and technologies set to hit the market in the year ahead.

“The awards program experiences growth year on year,” said Show Manager, Mark Stevens. “This is a direct correlation to just how fast our industry is growing through innovation.”

The Innovation Awards encourage exhibitors to submit new products and technologies for recognition via review and selection by a panel of third-party judges comprised of distinguished ASHRAE members.

**Winners are chosen in ten categories to represent the most innovative products and technologies set to hit the market.**

“AHR Expo would like to formally congratulate each of our 2023 AHR Expo Innovation Award winners, as well as our finalists and all our entrants, for their continued leadership and contribution to HVACR,” said Stevens. “We look forward to seeing each of you on the show floor in Atlanta, as well as where you’ll lead us in the future!”

## Categories

The 2023 AHR Expo Innovation Award Winners and finalists were selected in ten industry categories, including building automation, cooling, heating, indoor air quality, plumbing, refrigeration, software, sustainable solutions, tools and instruments, and ventilation.

Funds raised from the entry fees of the Innovation Awards competition will be donated to the Atlanta College and Career Academy (ACCA), an Atlanta-based technical high school. More information to follow on AHR Expo’s work with ACCA and our investment into the future workforce of HVACR.

Registration for the 2023 AHR Expo is free through February, 4, 2023 and can be completed on [ahrexpo.com](http://ahrexpo.com).

## Building Automation

**Winner: Cielo WiGle Inc.**

**Booth #C6700**

**Innovation: Cielo Breez Max**

Cielo Breez Max is the industry’s first true smart thermostat for mini-split, window, and portable



AHR Expo

air conditioners. It is loaded with next-gen features and takes a giant leap in the HVAC industry with its AI based Comfy Max mode which offers the true thermostat-like smart experience for all ductless air conditioners. It is also equipped with an auto detection algorithm that automatically detects any AC brand or model making it universally compatible with 200+ brands and 5000+ air conditioner models.

## Cooling

**Winner: Chemours**

**Booth #C6425**

**Innovation: Opteon™ XL41 Refrigerant**

Opteon™ XL41 is a non-ozone depleting, low global warming potential refrigerant replacement for R-410A in residential and light commercial air conditioning, and scroll chiller applications. This



innovative product maximizes the benefits of the transition to HFO refrigerants while minimizing the impact of the transition. Opteon™ XL41 provides a 78% reduction in GWP from R-410A, while remaining compatible with all R-410A residential and commercial applications and lubricants.

## Heating

**Winner: Copeland™ HVAC Compressors**

**Booth #B1839, B1849**

**Innovation: ZPSK7 Scroll Compressor**

Built on the award-winning ZPSK6 platform, Emerson’s ZPSK7 scroll compressor is the most efficient two-stage compressor developed in the 100-year history of the Copeland™ brand. The Copeland™ ZPSK7 scroll compressor is a product line of 1.5 – 5-ton two-stage compressors ideally suited

for residential and light commercial HVAC applications. These compressors can operate at 100% capacity or as low as 65% capacity based on heating/cooling demand. When a partial load is needed, bypass ports inside the compression chamber open which partially unload the compressor. This allows the compressor to achieve 65% capacity, thereby consuming less energy at light loads and avoiding costly stops and starts which use more energy. When demand increases, the modulation control valve is activated, sealing the bypass, and shifting capacity to 100%. The ZPSK7 two-stage compressor can run at lower capacity without stopping, ensuring air continues flowing over the coil and the filter. This yields important benefits in humidity reduction and air quality.



## Inside Air Quality

**Winner: BELIMO Americas**

**Booth #B315**

**Innovation: Room Sensor**

Belimo room sensors accurately measure temperature, humidity, dew point, and CO2 with or without an ePaper touch display. Integrated Near Field Communication (NFC) provides easy field adjustability, commissioning, remote display capabilities, and troubleshooting even without power. These sensors are maintenance-free and provide long-term reliability for a comfortable room environment. Non-powered configuration allows customers to set these room sensors up before being installed in the field, eliminating technician frustration as the sensors can arrive on site fully configured and ready to communicate.



➤ Turn to AHR, page 40



STORIES THAT INSPIRE, EDUCATE & ENTERTAIN

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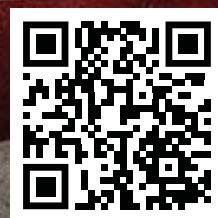
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# Sonnhalter Receives \$40K H4H Donation

► **Continued from page 3**

plumbing supplies.

"Even though our tool drive was officially over, we received a generous donation—the largest single donation we've received since we started our annual tool drives—from Supply Smart that traveled from Texas all the way to Cleveland," said Matt Sonnhalter, vision architect at Sonnhalter. "We are thankful for Supply Smart's donation of plumbing and HVAC products, and we know that they will go to great use for Habitat for Humanity."

"Supply Smart and Sonnhalter came together for a great cause to benefit the Greater Cleveland Habitat for Humanity," said Rafael De La Cruz, marketing strategy & content manager. "We were more than happy to donate more than 25 pallets of supplies and we're



**The items donated will benefit Greater Cleveland Habitat for Humanity and be used on Habitat for Humanity projects or will be sold at one of the organization's ReStores.**

already looking forward to next year."


The items donated will benefit Greater Cleveland Habitat for






Humanity and be used on Habitat for Humanity projects or will be sold at one of the organization's ReStores.

For more information on Sonnhalter's Tool Drive to support Habitat for Humanity, visit: [Sonnhalter.com/tooldrive](http://Sonnhalter.com/tooldrive). To view the donation, visit: [https://youtu.be/Tih2\\_C\\_RXcl](https://youtu.be/Tih2_C_RXcl).

The Greater Cleveland Habitat for Humanity was founded as a 501(c)(3) nonprofit organization in 1987. Since then, Cleveland Habitat has brought together community members, volunteers and sponsor groups to help more than 300 Habitat homeowners, including more than 1,000 children, have a safe and decent place to live.

For more information on Great Cleveland Habitat for Humanity, visit: <https://www.clevelandhabitat.org/>. 


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# Signature Mechanical Installs Radiant, Sprinklers for Dream Home

► **Continued from page 1**

they want to include the best possible products to keep their family comfortable and safe. Using Uponor for the PEX plumbing, fire sprinkler and radiant floor heating systems ensured the homeowners they were getting the highest-quality products to complement their impeccable home.

According to the homeowner, Uponor offered the complete package—they take a lot of the leg work off the builder. It's a great opportunity for a builder to use the same product throughout the entire home.

## Signature Mechanical

The contractors on the project were from Signature Mechanical, a company that has installed Uponor systems in the past for both commercial and residential buildings. Over the past 75 years in business in the Twin Cities area, Signature Mechanical has prided itself on the care and attention to satisfying the customer that results in referrals and repeat business.

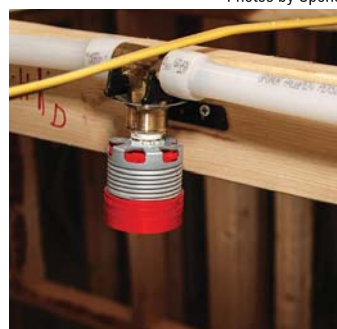
The crew was familiar with the



Photos by Uponor



The home incorporates vaulted ceilings on the top floor which gave the installers a bit of trouble when laying out the Uponor AquaSAFE™ fire sprinkler system.



In the course of the project, Signature Mechanical installed 3,400 ft. of Wirsbo hePEX™ tubing.

benefits of using PEX over other less durable materials, especially when it comes to the flexibility of the tubing. "If I had been running copper, I'd have tons of 90-degree turns just to get from point A to point B, but with Uponor PEX, I can just pull the tubing through easily," explained, Doug Kupp, plumber/foreman at Signature Mechanical. "I have to work with a lot of tight spaces and Uponor PEX helped me with the process."

One of the most appreciated aspects of the systems was "the ease of installation and the fact that it is way easier to install—it's fast and efficient," said Kupp. "The exterior radiant was a piece of cake."

The project did not come without its challenges. The home incorporates vaulted ceilings on the top floor which gave the installers a bit of trouble when laying out the Uponor AquaSAFE™ fire sprinkler system. Signature Mechanical received help from the Uponor Design Services team to help them navigate each nook and cranny in the home.

"The building's design was a challenge. It's just figuring out where we are going to put everything that's the hard part because of the extreme pitch of the vaults," explained Kupp. "Installing the fire sprinklers isn't bad—that will be the easy part." And for the homeowner, he feels confident that the Uponor products installed in his home will keep his family comfortable, but more importantly, safe for years to come. **C**

## Wrench Group Expands Into Nashville, TN

MARIETTA, GA -- (BUSINESS WIRE) -- Wrench Group, a national leader in home services, has expanded into Nashville, Tenn., as it pursues new markets through its successful "greenfield" growth strategy.

The company added its 24th market nationwide as Coolray, a southeast leader in home maintenance and repair services, announced it had opened its first location in Nashville this week. The move brings Coolray's 56 years of experience in air conditioning, heating, plumbing, electrical and water solutions to homeowners across middle Tennessee.

"Nashville's a dynamic, growing area that is a fantastic place to do business," said Ken Haines, CEO of Wrench Group. "As we looked at Coolray's next expansion in the south, Nashville was a no-brainer, as it's a place we've wanted



## The Wrench Group

to be for a long time due to its rapid growth and friendly business climate."

Coolray plans to bring 150 new jobs to Nashville in the first two years of operations in the area. The company currently serves more than 200,000 customers annually in Georgia and Alabama.

"Our local leadership, starting with our Nashville General Manager Jeff Watts, are all people with deep ties to Tennessee and know the market inside and out," said Andy Piercefield, Vice President of Business

Development and Retail Operations at Wrench Group.

This is the fifth market where Wrench has employed a "greenfield" strategy. The company previously opened greenfield locations in Austin, Texas; Orlando, Fla.; Tucson, Ariz.; and Birmingham, Ala. over the past 18 months. All four locations have quickly built a strong and loyal customer base and developed numerous community partnerships.

For more information, visit [www.wrenchgroup.com](http://www.wrenchgroup.com). **C**

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# PHCC Names Contractor, Apprentice of the Year

► **Continued from page 3**

integrity, readiness, teamwork, and dependability, to name a few—are embodied in the business philosophy that is Marines Plumbing.” Toczylowski

**Toczylowski leans heavily on his Marine Corps training, leading by example and asking nothing of his team members that he would not do himself.**

carried on his family’s tradition to enter the trades after service, employed by some of the best plumbing companies in Northern Virginia before establishing Marines Services Company in 2014.

Today, Toczylowski leans heavily on his Marine Corps training, leading by example and asking nothing of his team members that he would not do himself, making sound and timely decisions, training employees as a team, and ensuring each task is understood, supervised, and accomplished.

Toczylowski’s loyalty extends to the plumbing industry as a whole. As a member of PHCC of Virginia’s Board of Directors, he has been an integral force in launching meaningful programs that have positively impacted membership growth and satisfaction.

“Every chapter should be fortunate enough to have someone on their team like Ray,” says PHCC of Virginia Executive Director Susan Milhoan. “He is a quintessential Marine, and we have benefitted from his energy, drive, dedication, creativity, and passion.”

**Nick Santmyer** of Davken Mechanical, Virginia Beach, Virginia, has been named the Plumbing-Heating-Cooling Contractors—National Association (PHCC) 2022 Plumbing Apprentice of the Year. Co-sponsored by PHCC Executive Sponsor Delta Faucet, the

award recognizes the outstanding skill and achievements of individuals who are enrolled in a plumbing training program. It was presented last week at PHCCCONNECT2022 in Charlotte, North Carolina.

Santmyer, who recently graduated from Norfolk Technical Center in Virginia, is an “idea guy,” says Tony Bertolino, plumbing instructor at Norfolk Technical Center (and PHCC’s 2021 Plumbing Instructor of the Year). “From day one [in my class], he was an inquisitive and insightful plumber, often staying after class to talk more about the trades and help me pick the room back up for the day time students,” he adds. “Nick’s enthusiasm for plumbing has only grown since then.”

## VA Apprentice of the Year

Nominated by PHCC of Virginia, Santmyer is described as being flexible and knowledgeable and embracing opportunities to problem-solve. Earlier this year, he placed second in Virginia’s Plumbing Apprentice Competition and was named PHCC of Virginia’s Plumbing Apprentice of the Year.

Years ago, Santmyer was employed as a carpenter/framer before moving to France to raise his children. When he and his wife decided to move back to Virginia Beach, he wanted to pursue a job that he felt confident he would love. In 1998, he found a job with a plumbing company in Virginia Beach and enjoyed it so much, that he never looked back.

**Nominated by PHCC of Virginia, Santmyer is described as being flexible and knowledgeable and embracing opportunities to problem-solve.**

Today, Santmyer’s employers note that his attitude, his integrity on the job, and his technical ability help him to provide a good, healthy, motivating atmosphere where people want to provide their best. He is designated as the employee entrusted to train newly hired helpers and apprentices.

## Problem Solver

Santmyer has gained experience in a variety of settings, “bringing with him whatever he has learned and completing the job with knowledge and practical experience.” To date, Santmyer has worked in both existing and new commercial/residential plumbing and has completed jobs in numerous facilities, including hospitals, schools, shipyards, restaurants, and hotels.

Says Bertolino of Santmyer: “He isn’t afraid to propose something for fear he could be wrong. Many times he comes up with solutions to problems myself or other students have been talking about. This earns him a great deal of respect from his fellow classmates. ... He will always remain one of the most important people I have ever taught.”

## IAPMO Seeks Technical Committee Members

ONTARIO, CA — The International Association of Plumbing and Mechanical Officials (IAPMO®) is seeking volunteers to participate on two technical committees working toward the development of the 2027 editions of the *Uniform Plumbing Code (UPC)* and *Uniform Mechanical Code (UMC)*. The deadline to submit an application is Jan. 31, 2023.

The *UPC* and *UMC* technical committees each seek members in the following categories: manufacturer, user, installer/maintainer, labor, research/standards/testing laboratory, enforcing authority, consumer, and special expert. These committees are assembled in accordance with the *Regulations Governing Committee Projects* and the *Guide for the Conduct of Participants* in the IAPMO codes and standards development process. These documents may be viewed at the following URL: <http://codes.iapmo.org/>

### Use and History

The provisions of these codes apply to the erection, installation, alteration, repair, relocation, replacement, addition to, and use or maintenance of plumbing and mechanical systems.

IAPMO employs a consensus development process accredited by the American National Standards Institute (ANSI), gathering the most knowledgeable assembly of plumbing and mechanical experts in the world at its annual education and business conference and technical committee meetings, enabling anyone—members and non-members alike—to lend their voice to proposed changes to the code. The 2027 editions of the *UPC* and *UMC* will mark the ninth time these codes have been developed in this manner.

### Health, Safety and Welfare

IAPMO urges its members and other

interested parties to get involved in the process to ensure effectiveness in preserving the public’s health, safety, and welfare through fair and balanced development of its codes and standards. Installers, plumbing and mechanical officials, the construction industry, engineers, and manufacturers all benefit from a cooperative effort in developing codes.

Anybody interested in serving on one of these committees may complete the application online at the Code Development webpage: [http://forms.iapmo.org/iapmo/committee/app\\_tech\\_committee.aspx](http://forms.iapmo.org/iapmo/committee/app_tech_committee.aspx)

Should you have any questions regarding the *UPC*, please contact Enrique Gonzalez at 909/230-5535 or email at [enrique.gonzalez@iapmo.org](mailto:enrique.gonzalez@iapmo.org). For the *UMC*, contact Taylor Duran at 909/218-8126 or email at [taylor.duran@iapmo.org](mailto:taylor.duran@iapmo.org).



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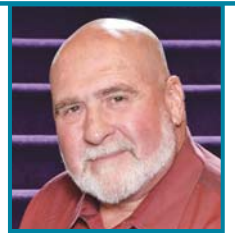
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by Al Schwartz  
PLUMBING CONTRACTOR



# Dealing With Reality

It's not like we don't deal with the real world every day. We do. The issue is how quickly, and how much our daily reality changes. We could all go on with the, "When I got into the trades..." stories, but that really doesn't address the problems we are all facing today.

Let me begin by saying that I do not have any answers here. I have ideas and suggestions, but I'm no longer involved in the day-to-day exercise of "being in business." If I were, I'd have to deal with things as they are, not as I would wish them to be. Such a perspective would, no doubt, be grounded in today's reality and not the hypothetical. I, and our readers, would be every interested in hearing how you, the guys at the "tip of the spear" of our industry, are dealing with these issues and how you mitigate the problems. Problems like:

## Supply Issues

This issue is new to just about all of us. I cannot remember a time when common, every day material was "out of stock" or "unavailable until further notice." Can you? Oh, sure, there were some specialty items that required pre-ordering, and there were always long-lead fixtures or equipment that had to be ordered in a timely manner so as to have them on hand when they were needed, but those issues pale in comparison to the outright lack of common, everyday parts and material needed to perform our work.

Since the trend over the past 25 or 35 years has been away from having stock on hand at the shop—or even on job sites—the issue of out-of-stock material has assumed a greater profile than it might have before.

A young(er) plumber I know was bemoaning the fact that he simply cannot get certain gas pipe and fittings, among other every day essential parts from his supply house or even at the big box stores! The fact that he even mentioned those big box stores as a place where he gets material was telling. He's a small contractor and doesn't have the room or the capital to keep much inventory, so he is at the mercy of "supply chain



I, and our readers, would be every interested in hearing how you, the guys at the "tip of the spear" of our industry, are dealing with these issues.

issues" as the media have dubbed the problem. He didn't have an answer on dealing with it other than chasing around town to get what he needed, and trying to anticipate.

What are you doing to mitigate the problem? Let us hear from you. We are all in this together, so anything you do that works, and can help other shops to get through this problem is worthwhile sharing.

## Manpower

We all know about the problem getting new apprentices, and/or journeymen into the trades. This column has been beating the drum on the issue for almost 15 years. While there seem to be some bright spots on the horizon, are they too little and too late? The problem is not just plumbing and heating specific. All aspects of the construction industry are, and have been, experiencing the almost total lack of new blood coming into the trade.

While people like Dr. Douglas Greene (see November's column) and others

like him are making things happen, it seems that there is simply not enough momentum to carry the trades forward. Meanwhile, the graybeards are retiring at an alarming rate, and taking all their collective knowledge with them. There is only so much of the trade that can be learned from books. We in the skilled trades are facing an overall knowledge drain of unprecedented proportions.

The lack of interest in trade careers is a result of a perfect storm of misdirection by the media, the education establishment and well meaning (if short-sighted) parents. As well, no small amount of blame can be laid at the feet of the very young people who we are trying to entice into trade careers. Who would have thought that almost an entire generation, in America, would find the idea of "work" to be something to be avoided at all costs? Yet here we are in 2022 with that exact scenario in play.

Again, what are you doing to get people on board, and trained? Do you have a program that works? If so, please

share! Where are you finding people? How do you motivate them? How do you retain them? We need to have as much information on this critical area as we can get. We are the ones who are going to have to fix this problem and not rely on others.

## The Economy

We are all holding our breath to see which direction our economy is going to go. With inflation on the rise and the Fed chasing it down with rate increases, it looks like the construction industry will be the first domino to fall. The run up on wood pricing during COVID will look mild in comparison to what is being predicted for the trades.

Are there any good answers out there on how to short circuit the looming crisis? How are you preparing your business to face the predicted recession?

As I said at the beginning of this column, we have to live and work in the real world. The issues that I have highlighted here are very real indeed. Looking to someone else to solve them is a fool's errand. The one thing I know about those of you in the trades is that you are tough people. You are in a tough business. Most of you will not simply fold your tents and walk away. You will find answers to these issues, one way or another. I'm asking you to give us the benefit of that experience and knowledge and the stick-to-it-iveness that made you successful. I don't know if publishing your tips and tricks is going to help very much, but it couldn't hurt! As ol' Walt Kelly's Pogo Possum said many years ago, "We have met the enemy, and he is us!"

*The Brooklyn, N.Y.-born author is a retired third generation master plumber. He founded Sunflower Plumbing & Heating in Shirley, N.Y., in 1975 and A Professional Commercial Plumbing Inc. in Phoenix in 1980. He holds residential, commercial, industrial and solar plumbing licenses and is certified in welding, clean rooms, polypropylene gas fusion and medical gas piping. He can be reached at allen@proquilldriver.com.*



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by Rob McManamy  
EDITOR-IN-CHIEF, HPAC ENGINEERING

# Honoring the Profession with ASPE's Jim Zebrowski

**[Editor's Note:** this Q&A is an edited transcript of one of HPAC Engineering's "On the Air" podcasts. To listen to the original podcast, visit the HPAC Members Only page at [www.hpac.com/members](http://www.hpac.com/members).]

Our guest this month is Jim Zebrowski, PE, CPD, FASPE, new president of the American Society of Plumbing Engineers (ASPE), and a plumbing /fire protection



Jim Zebrowski

engineer with DLR Group in Atlanta. Zebrowski has been an active member of ASPE for 36 years now and was elected to the top

spot for a two-year term this September in Indianapolis. He spoke with us about the goals of his presidency and his views on the role of character in all that we do.

**HPAC:** Jim, thanks so much for joining us, just weeks after being elected president at the ASPE Convention in Indianapolis in September. Before we get into any plans for your presidency, though, please give us a brief history of your experience in this industry and how you came to your current position at DLR...

**Jim Zebrowski:** Well, thanks for the invitation, Rob. Glad to be here. Back when I was in school in Columbus, Ohio, at THE Ohio State University, I happened to walk into the Engineering office, at my wife's urging, and told them that I could do drafting. I was so excited when I walked out of there and they had offered me the job, and I was going to get \$3 an hour to draft!

I thought that was the greatest thing in the world.

So that's how it all started and I did drafting for electrical, HVAC and plumbing. And then about three months after that, our plumbing designer left. So they came to me and said, "Do you want to be our plumbing designer?" I said, "Sure!"

Now back in those days (40+ years ago), we didn't have the internet. So



**Sister publication HPAC Engineering talks with the new President of the American Society of Plumbing Engineers about the goals for his two-year term.**

you had to go to the bookshelf and grab the code books and read through those. That's how I started learning the profession. We did a lot of engineering for schools back then. And I think we literally did the design for every middle school and high school in the State of West Virginia. And we did everything, start to finish, on those.

I was still going to night school at Ohio State at the time, but since these schools were fairly remote, we had to do independent systems and all the site work, including sewer treatment plants, water supply systems, etc. So it was a pretty good learning experience and I worked there for about four years before I was offered another job with a slightly larger mechanical engineering firm.

There, I did both HVAC and plumbing design and got more experience before an A/E company in Albany NY called and offered me a job. So, I moved there and that's when I first started attending ASPE meetings.

**HPAC:** Please tell us about that. How did you end up on the leadership path at ASPE?

**JZ:** Well, that was about 36 years ago now. When I first started attending, we had to go to meetings in Central NY because there was no chapter in Albany area. So, I got involved there and

we decided to form a satellite chapter for the Capital Region in NY. And when we did that, I became a board member for the chapter. So that's when the leadership roles started. Probably around 1986-87.

**HPAC:** So you have certainly seen the industry grow and evolve since then. Today, of course, is truly an extraordinary moment for the U.S. and the world, emerging from a global pandemic while also committing to improved water and air infrastructure to improve public health. How do you see ASPE contributing to this broader effort over the next two years of your presidency?

**JZ:** Well, we have all faced that crisis and seen how it's affected health. Coupled with that, we've got a lot of failed infrastructure in various places. We've seen issues with well water, failed backflow systems, failed piping. So we need to be the ones who offer those solutions. So, yes, it's been a tough two years. But at ASPE, we had a number of initiatives in place already. We have a number of subcommittees now, including a Legionella working group. And we've been working with several other groups and associations on these matters.

**HPAC:** With that Legionella working group, I often feel like that

issue has fallen off the radar a bit. Could you please update us a bit on that? Would you say that work is as important and as relevant as ever?

**JZ:** I would say it is. Clean water is just essential. You can't deliver water and not have the quality at least a minimum standard. And Legionella is a problem everywhere. So our working group has been very active and they have a lot of accomplishments that they have made already. They have put together a design handbook for ASPE members that is in a draft state right now, so it is being reviewed. But we hope to have it published shortly, likely next year. It's really guidelines that go beyond codes, and will help alleviate Legionella and other bacteria issues that affect water quality.

**HPAC:** Will new federal infrastructure funding help to propel some of these efforts?

**JZ:** ASPE is not directly involved with that. But all of these failing systems need a complete overhaul. So we will be monitoring this because that's where all of that spending is going to start.

**HPAC:** Looking ahead, what is ASPE doing to help member firms to recruit next generation engineers? Has focus on that next-gen issue increased over the last two years?

**JZ:** Yes, it has increased, and that's one of the things I want to focus on probably the most in my term. We've got a lot of things in place. We just need to make sure that our information gets out. For instance, for our chapters, we have an ASPE Resource Center on our homepage. It's got things on there like templates for recruitment letters that chapters can send to prospective members.

There separate letters that we can send to employers in different cities to make them aware of ASPE and to make sure their designers are in touch with our members. They will want to make sure that their designers are on the cutting edge of what's new. So we will help them to learn what they need to know and what they need to get done.

➤ **Turn to Jim Zebrowski, page 44**

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# DO YOU BELIEVE IN MIRACLES?

**Brent Ridley of Miracle Mechanical is giving back by way of what he knows best—installing plumbing and HVAC systems for the less fortunate.**

By John Mesenbrink, Editor-at-Large



**The relationships Brent Ridley fostered through his podcast were instrumental in making the Miracle Mechanical projects successful.**



**C**UMMING, GA—He wanted to do something more. Something with a sense of purpose. Brent Ridley, H & M Services, Inc.—a father/son full-service heating, cooling and plumbing company, and Tool Pros podcaster—was looking to give back.

After years of growing the Tool Pros brand by doing tool reviews via social media and the podcast, Ridley developed relationships with several tool/trade-related companies and wanted to use those connections to put some good back into the world. “Free tools, trips, etc. are great, but I wanted to use my platform to do more, and the best avenue to do so was by doing what I know best—HVAC and plumbing,” says Ridley.

What was born from this idea became Miracle Mechanical, a charitable organization dedicated to uplifting families and communities one plumbing/ HVAC repair at a time—at no cost to the recipient.

### Need is the Only Qualification

The selection process is based on need and Ridley and his crew do not limit the pool of recipients. If you are someone in need, regardless of circumstance, you qualify. Ridley starts the selection process by posting in local social media groups, and from there he contacts each individual, meets with them, and assesses the repairs needed. While the vetting process and choosing a recipient can be difficult, “I truly believe with each project the ‘right’ family or individual has been placed in our path making each and every project even more meaningful,” says Ridley.

Since its inception in January 2021, Miracle has successfully completed six projects for needy families located all around the North Georgia area. “We don’t have any specific timeline, but we hope to continue doubling and tripling that number with every coming year,” says Ridley.

Currently, all of Miracle’s recipients have been local to the North Georgia/Metro Atlanta area. “However, our ultimate goal is to take Miracle Mechanical on the road and help



**Since its inception in January 2021, Miracle has successfully completed six projects for needy families located all around the North Georgia area.**



**The team films some excavation work.**

those in need of major plumbing and HVAC repairs all across the country,” says Ridley.

### Team-Up with AHR Expo

Right in time for the AHR Show next February in Atlanta, Miracle Mechanical teamed with AHR to install two HVAC units for the high school kids at the Atlanta College and Career Academy (ACCA) on which to train. “We had a blast at the Atlanta College and Career Academy project; it was great to work with the next generations of HVAC pros,” said Ridley on his Instagram account @miraclemechanical.

Ridley admits he couldn’t do this alone. “Our corporate sponsors are very important. With their financial contribution, we are able to complete these costly repairs at no cost to the homeowner, as well as fulfill other needs the recipient may have such as new appliances, groceries, landscaping etc.,” says Ridley.

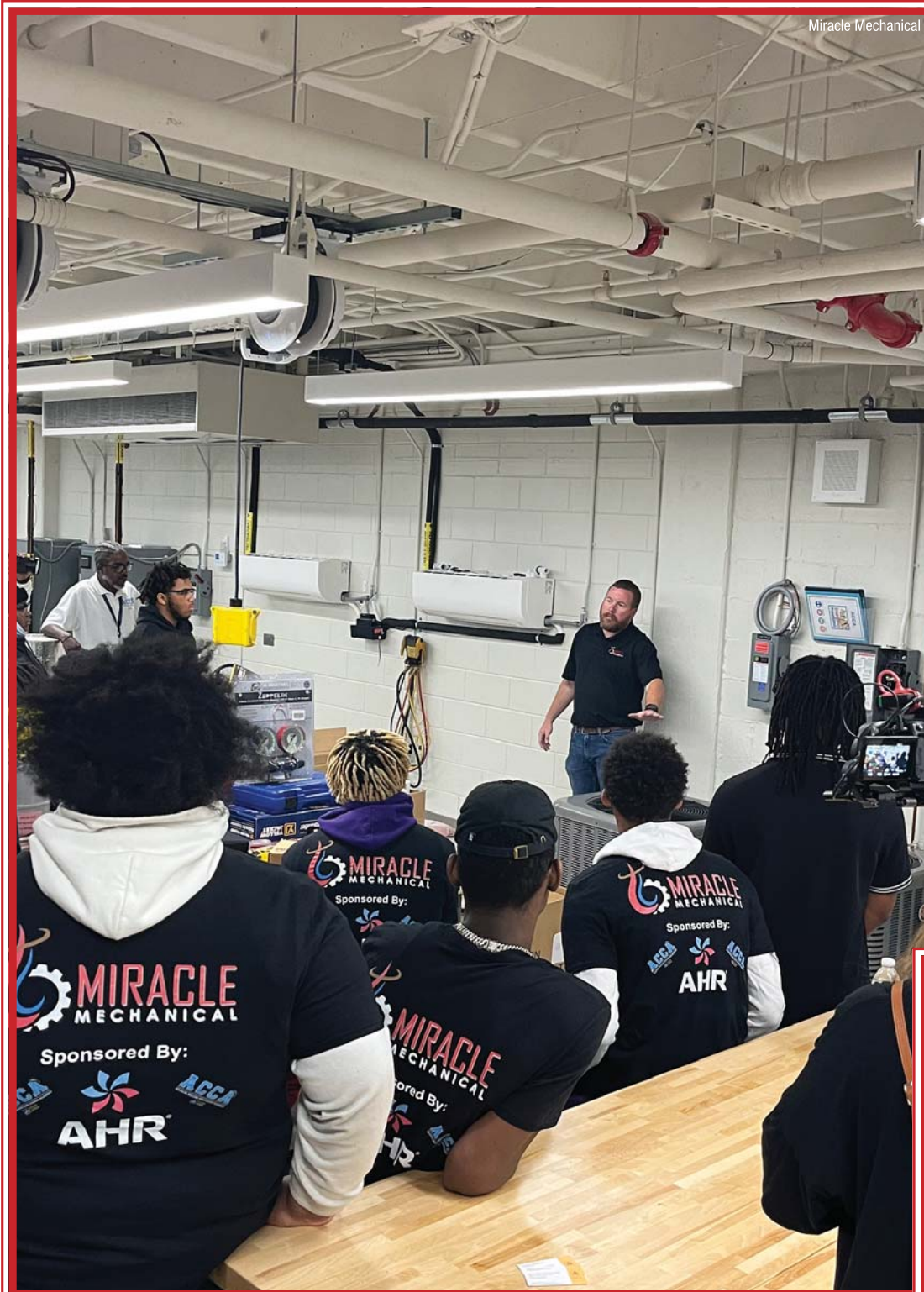
### Juggling Act

And, because Ridley is a contractor, successful podcaster and tool reviewer, where does he find the time for all of this, you ask? “Quite frankly, it’s somewhat of intricate juggling act; thankfully, my wife, Kathleen, manages all of the podcast/Miracle Mechanical operations full time, allowing me to focus on the daily operations of our HVAC and plumbing company. Our teamwork has allowed us the ability to take on all of the amazing opportunities that come our way,” says Ridley.

On average, it can take two to three months to plan and schedule everything. An immense amount of planning and logistics go into every project because Ridley wants to make sure everything goes as smoothly as possible for the recipient on project day.

Project days are usually eight to nine hours work days, depending on the repairs needed. “Our film and sound crew are on site with us the entire day, and once we wrap, they turn all the footage over to our editor. Once our editor has her hands





Brent Ridley talks with students at the kick-off for the Atlanta College and Career Academy project.



# WE BELIEVE!

on hours of film, she works her magic and creates a 15- to 20-minute episode to be shared.

"For the most part, it's me and my and my wife Kathleen planning and managing all the logistics of each project. When the actual project day arrives, I bring three or four of my crew members from H & M Services to help complete the mechanical aspects," says Ridley.

## A Change in Trajectory

Each project is satisfying in their own unique way, but some touch you more deeply than others, says Ridley. "The whole-house re-pipe project where we helped return access to clean, running water by replacing all of the corroded galvanized pipes—with new copper piping and 80 lbs. of Viega ProPress fittings—will always be one of my favorites."

In the end, the most rewarding aspect of the project is, at the completion of a work day, the recipient's reaction to the repairs that have been made. "At face value, it may seem like just plumbing or HVAC repairs, which may seem commonplace to most of us, but to them it is so much more. It is a change in trajectory for the homeowner in what could have been an overwhelming situation. I think one of recipients said it best, 'I don't just have clean running water now, I have hope,'" says Ripley.

All Miracle Mechanical episodes are posted on the Tool Pros YouTube channel, as well as the Tool Pros (@toolpros) Instagram account. [C](#)



Brent Ridley works on a whole-house re-pipe project replacing corroded galvanized pipes with new copper piping and 80 lbs. of ProPress fittings donated by Viega.





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by Patrick Linhardt

HYDRONICS MANAGER AT CORKEN STEEL PRODUCTS CO.



## Steam in the Bluegrass

The Kid came out of his office and over to my cubicle. Yeah, he has an office and I have a cubicle, but that's the way I like it. Everyone in our commercial equipment department used to have cubicles until we recently moved into a much larger building. Now with so much space, the Kid is lobbying for a golf simulator. So far, construction has only started on a 2,500 square foot hands-on training lab with live fire equipment.

It was a Friday morning and he was carrying a small piece of paper. From the look on his face, I could tell it was going to be interesting. The day before, a trouble job that both of us had been working on for weeks was finally resolved. (I'll explain that one next month.) This day, the Kid wanted the old man to go to a job, since it was one of those old-fashioned steam jobs in an old-fashioned farmhouse. He only likes the high efficiency hot water jobs—preferably radiant.

### Rare Combination

Not only was it steam, but it was oil-fired steam boiler. That combination is very rare around here. I'm sure you guys on the East Coast see one every day. I called the tech on the note and set up a meeting that afternoon. He said they were going to be there all day installing some mini-splits and reported that the boiler was cycling on and off, without the thermostat calling for heat. He was a little spooked.

That sounded interesting to me, especially his comment about a control at the back of the boiler. Usually, the controls on a steam boiler are at the front or on one side. The fact that this control wasn't in a normal location made me want to take a look.

Navigation took me further south into the former tobacco growing region of Kentucky. The "farmhouse" was much larger than expected, more the size of the houses on the big thoroughbred horse farms, just a little further south. I guess this farmer did well growing tobacco many years ago.

### Vintage Tankless

The tech took me through the well-cared-for home and led me to a mid-century boiler. Along the way, he said he had made sure the thermostat wasn't shorted. In the boiler room, he immediately went to the back of the boiler to show me the control he suspected. As I came around to the side of the boiler, I noticed the item shown in **photo 1**, a tankless heater. I'm told that they were very popular in the 1950s and '60s.



Photo 1 shows a mid-20th century tankless water heater.

The tech on site reported that the boiler was cycling on and off, without the thermostat calling for heat. He was a little spooked.

My local experience, here on the south shore of Ohio, contradicts the notion of popularity. The tankless heater heats the domestic hot water for the house, like an instantaneous hot water heater does today. As water flows through an open faucet, fresh water flows through the copper coils behind that plate on the side of the boiler and comes out hot. Curiously, it appears like this one was never hooked up.

As long as the water in the boiler is hot enough, the flow rate is correct, and the heater is sized properly, there is a consistent flow of hot water available at the faucet. Sounds like it could work. It did and still can, as long as you keep your boiler water at say, 150°F or so, 24/7/365. Unless you know exactly

when you want to use hot water next. Kinda expensive way to do it nowadays.

### Controls Setup

In **photo 2**, you can see the control I came to see. It reads in degrees of temperature instead of pounds of pressure. The tech had taken the control out of the circuit by disconnecting the wires coming from the control out of the burner circuit before I got there. Sure enough, the boiler hadn't fired for the last three hours.


I had time, so I gave them the nickel tour. We started with the high-pressure limit control installed off the top back of the boiler right above the tankless heater, not on the side of the boiler with the low water cutoff, where it is normally located.

### Cut-in + Differential = Cut-off

To explain the limit's operation and settings, I had them remove its front cover. As you can read in **photo 4**, the cut-off pressure (high limit) equals the

cut-in setting (scale viewable on front with cover on) plus the differential (round dial in bottom right). I had them set the cut-in setting to .5 (half a pound) and adjust the differential to 1 (one pound). Both are the minimum settings.

If the pressure in the boiler is below a half pound, as it will be if it has been off for awhile, then the burner will fire when the thermostat calls and run until the thermostat is satisfied, or the pressure rises to the cut-off setting of one and a half pounds. Cut-in setting of .5# plus 1# differential setting equals 1.5# cut-off. The modern version of that pressure control now has a white dial with black numbers instead of the metal one in the old version.

Residential steam boilers operate best when kept at minimum pressure. The water returning from the radiators has to be able to get back into the boiler, which is under pressure. The lower the pressure of the boiler, the easier it is for the water to get back in. I'll explain that fundamental of steam boilers early next year. 

*Patrick Linhardt is a thirty-seven-year veteran of the wholesale side of the hydronic industry who has been designing and troubleshooting steam and hot water heating systems, pumps and controls on an almost daily basis. An educator and author, he is currently Hydronic Manager at the Corken Steel Products Co.*



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## Xylem Bell & Gossett's Little Red Schoolhouse Responds to Increased Demand

■ SPECIAL TO CONTRACTOR

MORTON GROVE, IL — Xylem Bell & Gossett's Little Red Schoolhouse has been an industry icon in education for over 60 years, having trained more than 62,000 engineers, contractors and other hydronic, HVAC, and plumbing professionals in the proper design, installation and maintenance of hydronic and steam systems.

According to Mike Licastro, director of training, industry professionals recognize the value of in-person training. Since restrictions from

components of HVAC systems work together

- Revamped demonstration areas, featuring functional displays of equipment for a variety of commercial and industrial applications, including variable speed controller technology, plumbing products, and service and maintenance

In addition to its existing training courses, Xylem and Bell & Gossett are in the process of developing

**Since restrictions from COVID-19 have been scaled back, the demand for in-person training has surged.**

COVID-19 have been scaled back, the demand for in-person training has surged. All classes this quarter quickly filled up with attendees who are eager to learn.

Accredited by the International Accreditors for Continuing Education and Training (IACET), Bell & Gossett is at the forefront of industry training. Some recent developments include:

- Updated learning center with cutting-edge technology
- Systems-based approach that teaches students how all

new curriculum modules for 2023. When creating new modules or updating existing modules, Licastro collaborates with the Schoolhouse's REP network to make sure they are in touch with what challenges and problems engineers and contractors are facing.

"Of course, ASHRAE and Hydraulic Institute Standards are always reviewed," Licastro says, "ensuring our training programs are reinforcing their guidance. All modules include work problems associated with the subject matter to allow students the



Xylem Bell & Gossett

Hands-on hydronic training is offered at the Little Red Schoolhouse's Learning Center.




Xylem Bell & Gossett

Classroom space at the Little Red Schoolhouse.

opportunity to apply what they have learned, confirming their understanding of the material."

Some of the new modules will focus on the application and design of heat pump systems, supporting the

electrification and decarbonization initiatives in the HVAC industry.

To learn more about the Little Red Schoolhouse, enrollment, course descriptions and online courses, please visit [www.bellgossett.com](http://www.bellgossett.com). 

## Rheem Invests \$20 Million in Fort Smith Operations

ATLANTA, GA – Rheem®, a leading global manufacturer of water heating and HVACR products, is investing over \$20 million in its 50+ year-old Fort Smith facility to ensure it continues as a world-class headquarters for its US air conditioning business unit and the manufacturing of HVAC equipment.

Rheem considers this investment a key element of its 10-year strategy: "INVEST to grow, INNOVATE to lead and DELIVER on commitments."

"We are excited to expand our operations in Fort Smith," said Andrew

Welch, Director of Operations, Rheem Air Conditioning Division. "This expansion demonstrates our committed partnership with the state and rewards the Fort Smith community—enabling our continued growth and leadership."

"Founded in 1925, Rheem produces HVAC equipment, as well as water heaters, commercial and residential boilers, and commercial refrigeration solutions. Today, Rheem encompasses more than 40 brands worldwide, including Rheem, Ruud, SureComfort, Russell, Witt, Kramer, ColdZone and Friedrich. The owner, Paloma, remains

committed to investing in the business for future growth and expansion.

"We are excited to see Rheem grow and succeed in Fort Smith," Secretary of Commerce Mike Preston said. "Rheem is creating both corporate and manufacturing jobs that spur economic development and raise the quality of life for employees and their families."

As part of this investment, Rheem plans to hire 100 production and office personnel in addition to creating additional production capacity and making facility and grounds improvements. Improvements will include a

new Innovation Learning Center (ILC), which will allow training distributors and contractors to work with Rheem products and learn about product improvement.

The improvements will also include a new entrance and traffic flow patterns to improve safety, access, and congestion. "Rheem continues to be a leader in Fort Smith and Arkansas," said Tim Allen, President, Fort Smith Chamber of Commerce. "We are so pleased to work with them secure this investment into our community."

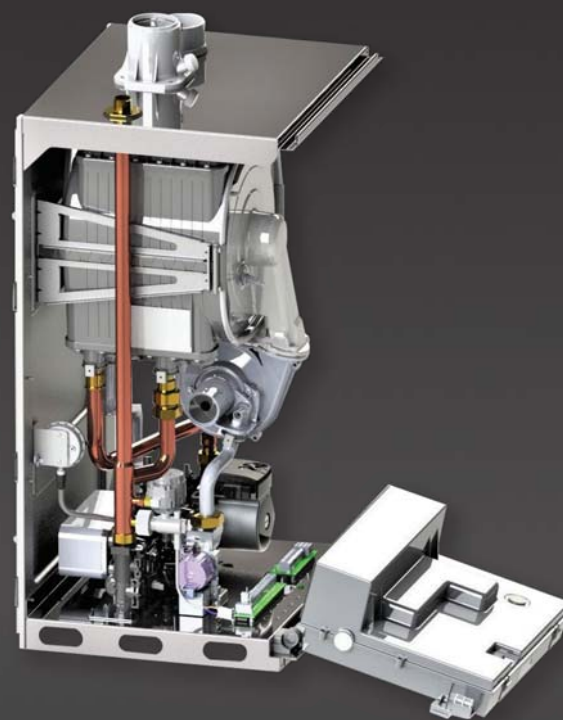
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## Geothermal Rescue Done Right

■ BY BRIAN NELSON, OWNER, NELSON MECHANICAL

**N**elson Mechanical Design is the largest mechanical contractor on the island of Martha's Vineyard. We have 20 techs in the field that install and service plumbing and HVAC systems ranging from mini-splits to geothermal to water treatment to solar.

We really enjoy "rescue" projects in which we get challenged to figure out why systems don't work and how to make them work.

### Underground Geothermal Leak

This rescue project started with a catastrophic leak in a 20-ton geothermal system that served nine, two-stage Climatemaster Tranquility Digital heat pumps located in the main house, with two more in the carriage and beach houses located 300' away. The geo system kept losing pressure, so we got the homeowners through the summer with a modified fill valve adding about 200 gallons of water a day.

They left after the summer season and asked us to develop a rescue plan to find and repair the geothermal underground leak. The geothermal wells were connected underground with poor documentation so we didn't know exactly where the leak might be. After several weeks of digging some exploratory test holes the homeowners opted to abandon the existing field. The well contractor came in with a price of \$40/ft for a new geothermal field (which would include devastation of the fully landscaped gardens), so the homeowner asked us for an alternative approach.

### Peace and Quiet

Since we were extensively rehabbing the system anyway, the homeowner asked if we couldn't solve another problem they were having. They were frustrated by the constant noise from the two 10 hp loop pumps that provided constant circulation to all 11 of the heat pumps. These two pumps

were in a mechanical room directly below the master bedroom! The homeowner wanted to know if they could be relocated somewhere else in the main

### Dry Fluid Cooler Ready to Help

This was not our first time performing work on this system. The geothermal heat pump system for the three

distance between the main house and carriage house with 2" polyethylene well pipe using two supply pipes and two return pipes. This dropped our head loss and meant that we would have no joints underground as the 2" pipe came in 500' rolls. We would bring the two supply and two return pipes into the main house mechanical room under the master bedroom where the existing loop pumps were.

**This rescue project started with a catastrophic leak in a 20-ton geothermal system that served nine heat pumps.**



The start of the strut framework in the main house (left). The completed repipe in the main house (right).



house. They also wondered if quieter loop pumps could be installed that didn't run non-stop.



The motorized PICV ball valve in the main house mechanical room.

buildings was installed in 2003 with an expected cooling setpoint of 74°F. Several years ago the homeowner wanted the ability to have a cooling setpoint of 65°F, so we augmented the cooling with a 25-ton dry fluid cooler located behind the carriage house—300' away from the main building. We had greatly oversized this dry cooler so that it could potentially take over the entire cooling load of the three buildings in the future.

### Rescue Plan and System Design

To sum up, we had three problems to solve: the existing geothermal field was leaking, a new geothermal field would disrupt too much landscaping, the existing loop pumps were constant circulation and needed to be relocated due to noise complaints. Ultimately, our plan was able to resolve all these issues.

We decided to connect the 300'

This meant we would need to re-pipe the geothermal piping in that room to upsize from 1½" to 2" pipe to drop the head loss. We would install motorized valves (pressure independent) on all 11 heat pumps which would permit variable speed, pressure-based pumping. The new variable speed loop pumps would move from the main house mech room below the master bedroom to the carriage house 300' away. We would use the dry cooler behind the carriage house to handle the entire cooling load of all three buildings.

Looked simple on paper—but execution would be a challenge!

### Demo and Repipe in the Main House

In the mechanical room below the master bedroom, we removed the two constant speed loop pumps, built





The supply return piping running from the carriage house to the main house.

a strut framework, and installed new piping in that mechanical room to connect the nine heat pumps in that house. We also cored through the foundation and connected to the two supply and two return pipes. We then installed Honeywell pressure independent flow setting motorized valves on all of the heat pumps.

## Supply and Return Piping Between Main and Carriage Houses

We buried the supply and return pipes in a two-foot-deep trench with a tracer wire above. No need for insulation or deeper burial as we would be running 30% propylene glycol.

## Carriage House Mechanical Room

The homeowners were very happy to get the loop pumps out of the basement of the main house, directly below their master bedroom, but they were worried about any possible noise or vibration from the new loop pumps on guests that might stay in the upstairs bedrooms at the carriage house.

We suggested erecting a strut framework that was only connected to the existing concrete floor that didn't touch the walls or ceiling of the



The carriage house mechanical room with the new loop pumps in place (left). The carriage house mechanical room with the supply piping connected (middle). The very crowded mechanical room in the carriage house (right).



mechanical room. Getting all the new mechanical equipment into this tiny mechanical room would require a lot of ingenuity.

We first removed the indirect tank and storage boxes to get a sense of how much room we had to work with. In a typical mechanical room, there is enough wall space to comfortably lay out all the fittings and circulators and appurtenances so that installation and service is straightforward. (The circulators are Goulds E-SV vertical pumps with Goulds Aquavar VFD controls.) But we did not have the wall space in this tiny room. Additionally, because of

time constraints, we would have to press all our fittings, which ranged from 1/2" to 2 1/2" copper. This meant that we had to be very careful about the sequence in which we pressed the fittings, and also how to support the pipe and fittings so that they didn't lose their alignment during the pressing process.

We ended up laying out all of the necessary fittings—compression couplings, drain tees, ball valves, tees for thermometers, air separator, closely spaced tees for fluid cooler injection, closely spaced tees for heating supply and return, etc., etc. We quickly realized that we would have to use both vertical and horizontal spaces to get all the pieces in place.

We set up supply and return risers

pump to get it out of the room.

During assembly of all this piping we only used one slip coupling. We had been pressing as we assembled and finally painted ourselves into a corner, and we could not get the press tool in place to get the last joint. In the end we just cut out a large sub-assembly, pressed the last joint, and then pressed up the slip coupling.


Because of our upsizing of pipe size, we were able to go from two 10 hp circulators to two 5 hp circulators. The variable speed drives worked well in chasing their pressure target. The system pressure would go up or down depending on how many heat pumps were calling and the pumps would speed up or slow down accordingly. The two drives communicated with a lead-lag arrangement as well.

so that we could make use of the upper part of the mechanical room for the air separator and injection point for the outside fluid cooler and tees for the heat pump and then drop down into the two loop pumps. This would permit us to still get into the back corner of the mech room to service the existing boiler.

Before we installed the two loop pumps on their inertial pads, we reinstalled the indirect tank. Then we slid in the two loop pumps. That was our only compromise—when that tank failed we would have to lift the old tank over the loop

We filled the system with water first and were so happy to have no leaks. Then we ran the system successfully for the summer before adding glycol for freeze protection.

## Happy Homeowner

The system has been working very smoothly since our rescue operation. It is quiet and chilly in the main house (cooling set to 66°F). The new loop pumps can't be heard in the upstairs bedrooms of the carriage house. The dry cooler is working well to handle the entire cooling load. Another successful rescue project! 



by Patti Feldman  
COMPUTER AUTHORITY



# Manage Your Team, Engage Your Customers

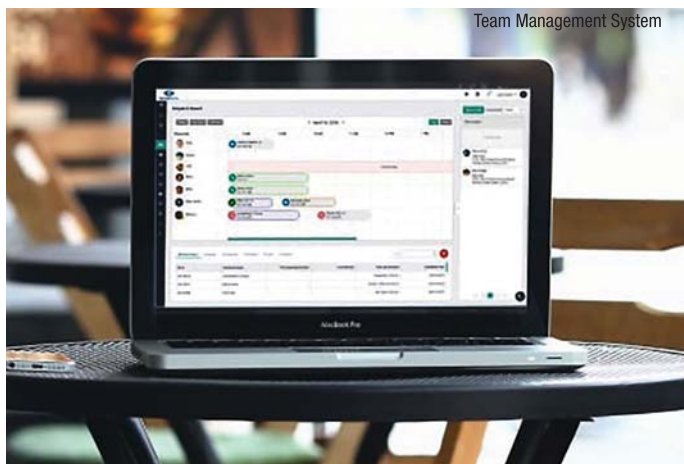
**ServiceFactor** ([www.servicefactor.com](http://www.servicefactor.com), 800/329-8326) by Team Management System, is a cloud-based service and project management software designed for use by contractors in the office and in the field.

As an integrated solution, it includes quotes (with the ability to present multiple options, such as good, better and best); work orders; intelligent scheduling and dispatch, with scheduling utilizing daily and weekly views, and dispatch based on technician skill sets along with mapping of where calls are located by zone. A dispatcher can assign a single technician or a crew.

The service agreement module tracks all aspects of maintenance agreements, including automatic billing, inspection schedules, and sending out automatic reminders of upcoming inspections. When a reminder is sent, the customer can click a link that takes them to an online schedule where they can choose the date and time they would like their inspection, which will automatically assign the inspection work order to the proper technician based on their skill level, the zone the customer is located, and the technician's availability.

ServiceFactor also supports equipment tracking (including alerts on aging or past-end-of-life equipment), purchase orders; project management (job costing) that includes the ability to break down the job into multiple phases, track change orders, and perform progressive billing, including AIA invoicing; technician profitability tracking; complete inventory management, including multiple warehouses and trucks, along with optimum quantities and re-order points; and mobile invoicing.

While office users can access the main system and all its components, technicians in the field use the mobile



The ServiceFactor scheduling screen.

module, which allows them to clock in and clock out for the day, view the

Alternately, if the technician does not invoice in the field, the tech can

enabling must-fill fields on various forms management has created based on specific equipment types or the problem reported.

When an invoice is completed in the field, the tech can capture an approval signature and payment and provide the customer with a copy of the receipt. If approved to do so, a technician can also enter a new service call and add a new customer, if applicable.


Customer Portal feature, used from any device with internet access, that enables customers to create and schedule service calls, schedule their pre-planned inspections, pay their bills, view their history, view their equipment on site, request a quote, and view existing quotes.

ServiceFactor integrates with both QuickBooks Online and QuickBooks Desktop.

**Pricing:** based on monthly subscription per user that runs from month to month (no long term contract or commitment).

**Slingshot** by WorkWave ([www.getslingshot.com](http://www.getslingshot.com) 800/514-7360) is a customer engagement platform for home and commercial field service providers that integrates automated responses and live sales and customer support answering service capabilities from trained agents 24/7, including interactions via calls (including scheduling of appointments in real time) as well as inbound and outbound text, webchat, and email.

The communications platform utilizes automatic technology while handling routine interactions and new sales leads, account creation, scheduling, and collecting of billing and payment information. The solution can also use customized call scripts. In addition, Slingshot's call center software offers analytics including review of call recordings and monitoring of campaign and sales performance.

The communications platform also enables creating and launching outbound sales and retention campaigns for current and past customers. The Slingshot team also supports customer campaigns, cancellations, lost sales opportunities, etc. for its enterprise customer base by building queues and scripts the specialty agents use for the client's specific needs. 

*Patti Feldman writes articles and web content for trade magazines and manufacturers of building products. She can be reached at [productpad@yahoo.com](mailto:productpad@yahoo.com).*

**Multiple techs can be assigned to a work order, with the primary tech responsible for generating the invoice, and others able to view call information, history, and equipment on site.**

calls assigned to them, view or add customer equipment, fill out forms, generate a quote, generate an invoice, and capture approval signatures. The system automatically records their travel time and working time, as well as tracks their idle time.

Multiple techs can be assigned to a work order, with the primary tech responsible for generating the invoice, while the other technicians are able to view call information, history, and equipment on site, and they can dispatch themselves to the call.

The work order module lets the user see the customer's pay status, if they have a service agreement, and any past, upcoming or overdue inspections, as well as a list of the customer's equipment and warranty status (if any) and where the equipment is in its lifecycle.

With the mobile module, the system guides the tech through the steps of a service call, including

present a customer with a work order and capture an acceptance signature, with all the data and a copy of the signed invoice or work order updated back at the office.

Dashboards instantly show important KPI information such as work orders, quotes, service agreements, and jobs sold and average ticket/job values, revenue vs. missed revenue, marketing campaign results, technician score cards including average ticket price and average revenue per hour, sales metrics including total sales, costs, gross profit and average invoice amount, active service agreement billings for the current month, number of planned inspections, agreements expiring, and more.

Types of reports available include: profitability, accounting, service agreement, customer, equipment, inventory, project management, quote, technician, and work order.

The system also includes an online

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by Matt Michel  
MARKETING AUTHORITY



# 14 Things to Know About Heat Pump Water Heaters

**E**lectrification is the environmental buzzword of the day. Expect more interest in electric products from environmentally-conscious consumers and more mandates away from gas by local governments. This means you can expect an increase in electric water heaters and with it, an increase in heat pump water heaters. Here are 14 things you need to know about heat pump water heaters.

## 1. Lower Utilities

Heat pump water heaters are considerably less expensive to operate than straight electric water heaters. This is their primary advantage.

## 2. Lower Carbon Footprint

Because heat pump water heaters use less electricity, they are more environmentally friendly than straight electric. A little more than 60% of the nation's electricity is based on fossil fuel generation. Reduce electric usage and you reduce fossil fuel generation.

## 3. You Need Power

Typically, a heat pump water heater requires 240 volts. If you are replacing a gas water heater and do not have sufficient power available, you will need to subcontract with an electrical contractor if you do not have an electrician on staff.

## 4. You Need Space

Recommendations for heat pump water heaters run around one thousand square feet. In other words, you need around a 10' by 10' room. For basements and garage installations, you should be in good shape. As a rule, water heaters located in closets will need to be moved. If the closet is in the garage, it might be possible to simply remove the closet door.

## 5. There is an Ambient Temperature Range

According to the U.S. Department of Energy, heat pump water heaters need to be operated in spaces where the temperature stays above 40 deg.

F and below 90 deg. F. Most basement application should be fine. Some garage may be questionable. Attic applications, like many in Texas, are questionable.

## 6. Free Cooling

The heat pump water heater provides some cooling. Heat pumps remove heat from the surrounding ambient air and literally use a compressor to pump the heat through refrigerant into the storage tank's water. Removing heat results in cooler air. This is a benefit in the summer, but a small liability in the winter.

## 7. Free Dehumidification

When the heat pump pulls heat from the ambient air, it also squeezes out moisture. A heat pump water heater can reduce the clammy feeling of some basements.

## 8. You Must Drain Condensate

The moisture that the heat pump water heater squeezes out becomes condensate, which has to go somewhere. If there is not a readily available drain, adding one will need to be factored into the cost.

## 9. Recovery Times are Slow

If hot water recovery is limited to the heat pump alone, it will be slow (i.e., think hours). Electric resistance heat can hasten the recovery, but at the price of eliminating much of the savings. An alternative is to use a larger storage tank.



## 10. Heat Pump Water Heaters Make Noise

When water is heating, there is a compressor running. There is some accompanying sound. In most cases it will not be a problem, but you should be aware of it and set customer expectations accordingly.

## 11. Longer Life

Heat pump water heaters are projected to have a slightly longer life than con-

ventional storage water heaters. The difference is only a couple of years, but it helps.

## 12. They Cost More

The primary downside to a heat pump water heater is price. The cost from the manufacturer is roughly three times the cost of a conventional storage water heater. The installed cost may range up to four times as much. Fortunately, some consumers are willing to pay significantly more to reduce ongoing utility payments, especially if they anticipate rising rates in the future. Others are

willing to pay a premium to reduce their carbon footprints.

## 13. Incentives Offset Costs

Government officials love heat pump water heaters. Accordingly, there are federal, state, and some local incentives. For up-to-date information on government incentives, visit the DSIRE database (<https://www.dsireusa.org/>).

## 14. More Profitable for Plumbers

Installing a heat pump water heater may take the same amount of time as a storage water heater. Even if it costs more, you can price in the added labor. Because the material costs are so much higher, if you maintain your margins, your total gross profit dollars and gross profit per man hour jumps considerably, making heat pump water heaters very profitable for plumbers.

## Offer the Option

It is impossible for you to tell the difference between customers who might be willing to pay a premium for a heat pump water heater from those who want the lowest first cost. Thus, they should included as an option on every water heater replacement quote. Some will want them, others will not. Yet others might select a better storage water heater because it seems low cost in comparison to the heat pump water heater. You have nothing to lose by offering the product. Offer the option and let the customer decide. **C**

*Are you growing your plumbing business? Are you making the phone ring and the applications sing. If not, you need help. Get it from the Service Roundtable. It's plumbing's largest and most affordable business alliance at just \$50 per month without a long term contract. Learn more at [www.serviceroundtable.com](http://www.serviceroundtable.com).*

**Expect more interest in electric products from environmentally-conscious consumers and more mandates away from gas by local governments.**





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by Mark Matteson  
INTERNATIONAL BEST SELLING AUTHOR AND FOUNDING  
FACULTY MEMBER OF EGIA CONTRACTOR UNIVERSITY



# Service After the Sale

*The ability to find a customer, sell your product or service to that customer, and satisfy the customer so that s/he buys from you again should be the central focus of all entrepreneurial activity.*

-Brian Tracy

**S**ervice after the sale. Many inexperienced technicians simply forget that they made some promises in the sales process that they absolutely must keep if they expect to KEEP the customer. The very best techs take the opportunity AFTER the sale to WOW the customer with extra-mile value that amazes the client. Here are six of my favorites:

1. Send a handwritten thank-you note to the client telling them how grateful you are for their trust in you.
2. Call, email or stop by if possible to check with them to see if they are happy with their decision.
3. Give them your contact information (cell phone, email address, home phone) and let them know they can contact you day or night with a question or concern.
4. Schedule a follow-up meeting to discuss details, make introductions to your team, and answer any new questions.
5. When a request comes in, stop what you are doing and provide what is needed. This builds more trust and strengthens the relationship further.
6. Ask them six months later why they bought from you. Learn the causes of your success.

If you have done all of the above, it's the time to ask for referrals.

The following is a true story from my early days as a speaker. Every word is true.

It was April 2000 and I was in San Diego to give a presentation at the annual gathering of MHEDA, the Material Handling Equipment Distributors Association. The conference was held at a four-star hotel and 200 CEOs were in a room to hear me talk about "Customer Service Excellence." It was a wonderful opportunity, not just for additional speaking engagements, but to test this "Back of the Room Sales" I had been reading about.



**Many inexperienced technicians simply forget that they made some promises in the sales process that they absolutely must keep.**

**-by Mark Matteson**

You see, I finally had a product to sell. My first book, on effective communication—which few people know about—was for sale on audio cassette, and I secretly hoped some of these corporate executives would buy it. Sure enough, I sold three copies! A week later, one CEO who had purchased my tapes at the conference called me for a speaking engagement. I called him back on his car phone. He said, "Hold on, let me turn this off. I was listening to your audio tapes." A little flattered, I asked, "What did you like most about them?" He paused for moment, and then said, "You know what I like the most?" Holding my breath in anticipation, I replied, "No, what?" He said, "I can turn you off any time I like!"

*It's lonely on the extra-mile. Few people ever go there.*

-Mark Matteson

*The purpose of business is to GET and KEEP customers.*

-Theodore Levitt

I reserve the right to add more time and value to my coaching, keynote and seminar clients without increasing the fee. I once conducted a one-hour keynote for one of the large and fastest growing wireless communication companies (think pink, they are in my back yard), an amazing group of superstar business-to-business sales professionals. I was scheduled to speak at 2:50 pm to 4:00 pm. I showed up at 7:30 am, to listen to their internal speakers, observed

their breakout sessions, enjoy a fireside chat with the CEO (John Legere), breakfast, lunch and dinner. Yogi Berra said, "You can observe a lot by watching!"

It allowed me to truly tailor my talk to their culture, language, areas of expected growth. The frosting on the cake was, I surprised the audience by handing out 200 copies of my first book, *Freedom From Fear*, to these sales professionals. I never tire of standing ovations; they are good for the soul. I signed books for an hour afterward. I was invited to bowling and cocktails. At dinner the CEO said to me, "You were a big hit. I hear you did a great job. There are some other areas I think we can use your services. I am going to read your book tonight. Thanks again." The VP that hired me was beaming. It was the Extra-Value Mile Smile.

What can you do to add value? What can you offer that none of your competitors do? How can you delight your customers with more than they expected?

What can you do to WOW the customer? The juice is worth the squeeze.

Ready to take a deeper dive into sales training and customer service for your business? Click here to start a free trial with Contractor University and unlock thirty days of access to powerful on-demand training classes on every subject crucial to contracting business success; the industry's largest resources library; and much more! [G](#)

*Mark Matteson is a speaker, consultant and author, offering consulting engagements with HVAC Service companies as small as \$2 million to billions of dollars. His engagement list includes Microsoft, T-Mobile, GE, Surety Mutual Life of New York, AFLAC, John Deere, Johnson Controls Inc., Honeywell, York, Carrier, Conoco-Phillips and Trane. Mark has written five books: Freedom from Fear FOREVER, A Simple Choice, Wag More, Bark Even Less, It's About TIME, and the international bestseller, Freedom from Fear that has been translated into Japanese and French. Mark has also authored four e-books. Contact Mark at 206/297-0454, mark.enjoy thejourney.matteson@gmail.com or visit [www.sparkingsuccess.net](http://www.sparkingsuccess.net).*

by Sam Bowman  
WRITER



# Practical Benefits for Plumbers

According to the Home Builders Institute's Fall 2022 Construction Labor Market Report, 77 percent of builders and 76 percent of remodelers report a shortage of skilled plumbers that has impacted the volume and type of work they take on.

<https://hbi.org/wp-content/uploads/Fall-2022-Construction-Labor-Market-Report.pdf>

Maybe you've felt the sting of that statistic in your own business. Throughout the pandemic, many workers in the construction industry were either laid off or had to resign for various reasons. Now that we're entering a post-pandemic society, the demand for residential plumbing is going up, but there clearly aren't enough qualified individuals to keep up.

Luckily, there are steps you can take to ensure you keep your best workers. Provide them with the practical benefits they want and deserve. You undoubtedly already have a benefits plan in place, but it's time to audit your current package and determine if your employees are actually happy working for you.

Let's take a look at a few practical benefits you should be providing for your plumbers, why they're so important, and why they're crucial to keeping your workers healthy, happy, and loyal to your business.

## Better Health Benefits

Even if you currently offer health benefits and insurance plans to your employees, are you really giving them the support and care they need? Are you looking at individuals within your company and considering any conditions or issues they're facing that might not be covered under your current policies? If you're not currently providing the following forms of health insurance, it's time to make some additions:

- Health Savings Accounts (HSAs)
- Dental/vision packages
- Disability insurance
- Flexible Spending Accounts (FSAs)
- Life insurance
- Accident insurance

While plumbing isn't the most dangerous job in the world, it requires a lot of physical labor, and accidents do



Let's take a look at a few practical benefits you should be providing for your plumbers, why they're so important.

happen. By ensuring your employees they won't have to manage thousands of dollars of medical bills on their own if they get hurt, you'll foster a healthier work environment with less stress.

It's also important to offer mental health services. Jobs can impact mental health significantly, considering people spend much of their time at work. Plumbing is a demanding profession, and your employees might be overworked and tired thanks to the current labor shortage. Offering comprehensive mental health benefits as part of your employment plan can make a big difference in the overall well-being of your workers.

## Increased Time Off

The last thing you want is for your workers to get burnt out, but it can easily happen during a labor shortage. Some of the common signs of employee burnout include:

- Emotional, mental, and physical exhaustion
- Disengagement
- Lack of motivation

- Decreased productivity

Giving your workers more time off will help to reduce the risk of burnout and can improve their work-life balance. As a result, you're more likely to see happy, healthy employees who are excited to come to work and boost their productivity. Advertising things like a flexible schedule, adequate paid time off, and fair parental leave can serve as a great recruitment tool if you're trying to grow your business, but it will also improve employee retention so you can maintain top talent in your industry.

If you aren't sure what your workers are looking for in terms of time off, ask them! An employee survey can go a long way in helping you determine what your plumbers really want and why their free time is important to them. You might find that they want things like paid paternal leave, longer holidays, and mental health days. You can work to strike a healthy balance when it comes to PTO, but don't be afraid to sacrifice a few extra days for the well-being of your team.

## Greater Compensation

Fair pay for employees is obviously a necessity for any business to be successful. However, you must ensure that you are really giving your workers fair compensation for the things they're doing. Take stock of whether you are educating them on how to be responsible with their money by giving them financial management materials.

Sometimes, you don't necessarily need to offer large pay increases. Instead, give your workers practical information that will help them handle their money. Millennials and Gen Z workers are new to money management, and they may not have had the opportunity to save in the past. By providing financial literacy courses and the right materials, you can encourage them to save responsibly and grow their financial worth over time.

While teaching financial literacy is important, you'll also boost the loyalty of your employees by compensating them for things like mileage, especially when they're taking on multiple jobs in different locations each day. Whether they're driving a company truck or their own vehicle, they'll undoubtedly have to stop for gas a few times a week, and with gas prices at an all-time high, that's not something that should come out of their wallet.

When you look at these practical benefits, they just make sense. However, so many plumbing companies across the country aren't addressing their workers basic needs and wants. If you want to ensure that your employees are healthy, happy, and loyal to your business, consider adding them to your employee package as soon as possible. Not only will you increase employee retention, but the right benefits package can help you through the current labor shortage by recruiting the best up-and-comers in the industry. **G**

*Sam Bowman writes about people, tech, wellness, and how they merge. He enjoys getting to utilize the internet for community without actually having to leave his house. In his spare time he likes running, reading, and combining the two in a run to his local bookstore.*



by Aaron Salow  
CEO AND CO-FOUNDER OF XO! TECHNOLOGIES



# Try Tech-First Training to Close the Skilled Trades Gap

In recent years, the volatility of the economy and growing overall work shortage have compounded the existing skilled trades labor gap. A chronic pain point for trades industries has transformed into a crisis.

Employers are engaged in expensive bidding wars for the few experienced technicians on the job market. Local companies are recruiting talent from across the country. Skilled workers can command large signing bonuses in addition to rising salaries and generous benefits packages.

The hiring arms race isn't sustainable. Business owners can't simply spend their way out of a labor crisis. How can contractors recruit and retain the talent they need to meet demand in their market without breaking the bank?

One essential part of the solution for field service contractors is training.

Effective technician training for the 21st century can be a critical differentiator in today's hypercompetitive job market. A commitment to flexible, self-paced, continuing learning demonstrates that an employer is invested in helping his team members advance their careers. It empowers techs to personalize training habits that fit their workflows and learning styles. It can be the foundation of a company culture that values team members and rewards initiative.

And for contractors, it allows them to accelerate the time it takes to prepare a new technician for the jobsite.

## Drawbacks of Traditional Training

Training in the skilled trades has traditionally followed two basic formats:

- **Formal, structured and episodic:** The one-size-fits-all classroom approach assumes that each trainee comes to training with the same experience, knowledge and skill level. Instructors target an avatar of the ideal student, which can leave more experienced trainees bored and newer ones in over their head.

Classroom training also may not directly address the technician skills that are most in demand. If technicians can't immediately apply what they've learned in the classroom on a jobsite, the information is less likely to be fully absorbed. Without practice, a lesson doesn't become knowledge. A further disadvantage is that classroom sessions require advanced scheduling and may take place only once or twice a year.

- **On the job:** Many current technicians learned most of what they know in the field, watching older, more experienced techs on a jobsite. This approach has many advantages over more structured training settings.

In addition to the formal process of classroom and hands-on learning, companies benefit from organic ongoing training supported by rapidly evolving data- and video-supported technology. This innovative technology allows businesses to tap into the earned knowledge that experienced technicians have accumulated over time and make that information immediately accessible for greener technicians.

Many innovative platforms deliver support and equipment information in formats designed to elevate technician skills, not just provide a quick fix in order to close out a call. Every time a tech troubleshoots a new issue or solves a



young workers in a challenging field develop more quickly while making fewer mistakes.

That means that contractors can reduce their reliance on hiring experienced techs. With proven tools that provide organic continual training based on data and institutional knowledge, contractors can take significant steps toward closing the skilled trades gap.

Being able to recruit capable candidates who may lack trades experience widens the talent pool. While traditional training remains necessary to equip new techs with core skills, powerful tech-first technology reduces the amount of time it takes to prepare them for the field and ensures all techs, regardless of experience, have unprecedented onsite resources for informed decision-making.

As a result, younger technicians can operate more effectively more quickly, and more experienced techs are relieved of the support roles they too often find themselves in.

Tech-first technology means you start with the technician's viewpoint. That's the perspective it will take to attract, develop, and retain the front line of the industry. **E**

## Effective technician training for the 21st century can be a critical differentiator in today's hypercompetitive job market.

Onsite learning is often one-to-one and allows trainees to ask questions and get hands-on experience. They will learn skills that are directly applicable in the field.

Unfortunately, technicians are usually not trained educators. They may not be able to fully explain why a particular skill or technique is important. Their performance of a skill may not clearly demonstrate the process or principle at work. They may not appreciate the added responsibility, especially if onsite training slows down the progress of their work. They may pass on bad habits and shortcuts that could have major negative impact on your company.

And most customers don't want their projects to be a training site for your employees.

Increasingly, an alternative view of training has emerged that will play a significant role in which field service companies thrive and grow in the current challenging labor market.

problem, that becomes a data point for that company. No other company has it, and that team has instant, democratized access. And the tech has added to his or her knowledge of the field with firsthand experience.

Advanced technician-first platforms that prioritize field workers leverage shared institutional knowledge with tools driven by data, analytics and artificial intelligence. With such tools, contractors can improve the job experience for their most valuable workers and maximize accuracy, efficiency and customer experience.

## Transforming Training for Today

Tools such as these represent an opportunity to transform and modernize the concept of training for our industry.

Focusing on earned knowledge and implementing tools that help them catalog accumulated experience can enhance operational efficiency and productivity in the field, and also help

*Aaron Salow is CEO and co-founder of XO! Technologies, one of the fastest growing startups in Nashville, Tennessee. XO! is changing the way field service companies in the mechanical, electrical, and plumbing industries capture data, communicate with stakeholders, and service their customers.*

by Tim Robinson  
CHIEF OPERATING OFFICER, WORKWAVE



# Negative Feedback Essential for Business Growth

Whether it comes from a former employee or a customer review, negative feedback about your business is not only hard to hear, it can dredge up crushing emotions that can cripple your productivity if you let it.



But, if taken as a learning experience, it's also one of the most useful tools a company owner or manager can harness to improve all aspects of the business. As the cliché says, the first step in correcting a problem is to recognize problems exist in the first place.

After placing the hurt feelings aside, the reality is that negative feedback is usually more insightful than positive feedback because it can help you analyze your weaknesses. Encouraging honest feedback from both current and past employees can help you keep your business on track to create a positive company culture.

## Why Constructive Criticism Matters

Negative feedback gives you an accurate diagnosis of your team's workspace health. It's a reliable way to identify existing pain points and challenges and can protect against future problems if creatively addressed. Think of negative employee feedback as an opportunity to improve performance, productivity and company culture.

Workplace culture develops over time and can become destructive if issues are not acknowledged and corrected immediately. If you want to make sure your culture is developing in a positive way, you sometimes need negative feedback to correct the path and pave the way to growth.

Constructive criticism can be used to address significant issues by:

- Assessing your company's processes and performance to help you identify consistent pain points and bottlenecks.
- Taking fair and appropriate action to help streamline and optimize performance throughout the company.
- Acknowledging and accepting feedback to let employees know they can be honest.
- Taking appropriate action in response to negative feedback to let your team know their feelings and opinions are valued.
- Introducing new ideas and perspectives from employees that will benefit company culture and performance.

## Managing and Assessing

Asking employees for negative feedback can be done anonymously so that team members don't feel that they

feedback at face value. Don't look for hidden motivations like laziness or envy.

- Create channels for employees to raise concerns about job-related issues confidentially and at times outside of regular assessment periods.
- Don't punish employees for negative feedback.
- Communicate with employees that their honest input is valued. Be open about how their feedback will be gathered and used and offer timelines for your response to their concerns.
- Be transparent about your process for review and assessment of employee input. Let your employees know who's involved, when and how you will respond, and the range of possible actions you might take.
- Include team members from all levels and departments in the process.

**As the cliché says, the first step in correcting a problem is to recognize problems exist in the first place.**

## Empathy and Authority

The best way to respond to negative feedback is to treat the assessment as a learning opportunity for you and your managers. Remind yourself that your employees are not making personal attacks—they are helping you see areas where you need improvement.

You need to be willing to reflect on these assessments and be willing to admit if your leadership is off course.

You can't change a problem if you're unaware of it or aren't willing to accept that a problem exists.

Upon reflection and acceptance, creating a proposed solution is the final step in the process. If there are multiple viable options, identify them all and work with your team to ensure the solution is fair and manageable.

Provide clear goals and measure results to see if your solutions are working.

Being able to address negative feedback with positive responses is the only way your business will grow and is often key to sustained employee motivation.

## Benefits of Feedback

Finally, after performing the assessments, reviewing the feedback and developing paths to correct the problems, you will reap the rewards in accepting the changes that need to be made.

You can expect:

**Enhanced creativity.** Studies have shown that receiving constructive criticism often drives us to find creative solutions to get back on course.

**The creation of trust.** Once your employees see that you value their opinions and that they will not suffer retribution for their honesty, you create an atmosphere of trust among your team. This not only helps employees become more satisfied in their positions, it also gives them ownership.

**Growth.** When employees feel empowered, they invest more of themselves in a business' outcome. Even if they aren't a part of the overall decision-making process, their voices are still being heard.

If you want to know your company's fault lines, sometimes the only way to find the truth is to conduct honest, fair and, yes, negative feedback. Just remember to assume good intentions, clarify expectations and goals and, above all else, don't take it personally.

After all, correcting the mistakes helps your team become more motivated which helps your business grow. **C**

*Tim Robinson is the chief operating officer for WorkWave, where he plays a large role in ensuring the company is providing value to its customers and their businesses. He is a strong believer in driving a customer-centric culture and building great teams and products that meet the demands of WorkWave's customers.*



► Continued from page 10

## Plumbing

**Winner:** Caleffi Hydronic Solutions

**Booth #B3317**

**Innovation:** Caleffi 536 Series PresCal HP Piston-type Pressure Reducing Valve

The only direct-acting pressure regulating valve in North America with true piston operation, the PresCal™HP family ensures stable, high-precision water pressure control while withstanding severe inlet pressure or punishing downstream water hammer. It's perfect for staged pressure control or demanding applications that are fraught with extreme pressure fluctuations. Being the bridge between a building's water main and its distribution piping, a PRV experiences pressure fluctuations on both downstream and upstream sides. These fluctuations can be of sufficient magnitude to cause premature fatiguing and failure of a rubber diaphragm design, the industry standard (including Caleffi). The higher the incoming pressure, the more severe the fluctuations and their effects frequently are. This is because higher-pressure applications often involve commercial buildings containing quick-acting devices. They are also interconnected with other similar buildings. Controlling pressure reliably in such applications requires either a robustly designed PRV, a two-stage PRV arrangement, or both. These are the demanding conditions the Caleffi PresCal HP family of PRVs is designed for. Instead of using a flexible, rubber diaphragm separating the high-pressure and low-pressure chambers inside the PRV, the PresCal HP uses a durable piston design. The high-range model serves as a first-stage PRV in a two-stage application. The low-range model serves as a second stage, or as a stand-alone PRV for punishing pressure spikes.



## Refrigeration

**Winner:** Copeland Refrigeration Compressors

**Booth #B1839, B1849**

**Innovation:** ZFW variable speed scroll solution for low-temperature refrigeration applications

The Copeland ZFW variable speed scroll solution includes brushless permanent magnet (BPM) motor-based scrolls and variable frequency drives (VFDs) targeted for low-temperature, stationary refrigeration applications. The variable speed scroll provides better efficiency, precision, flexibility and reliability, while Copeland variable frequency drives, EVM/EVH Series complement Emerson compressors and controls. It has double the capacity of a fixed-speed compressor of the same size while providing a 20–30% efficiency improvement.



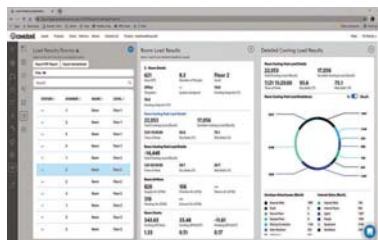
With vapor injection technology and a speed range of 1,000–7,000 rpm, it offers unparalleled levels of control, while reducing cycling rates and greatly improving reliability. Optimized for use with new Copeland EVM variable frequency drives, the combination offers cutting-edge levels of performance.

## Software

**Winner:** cove.tool

**Booth #B4561**

**Innovation:** loadmodeling.tool



Built for mechanical engineers, the loadmodeling.tool quickly and automatically establishes peak cooling and heating loads to design and right-size the mechanical system using the EnergyPlus engine. This web-based tool supports cove.tool's goal of providing the solutions needed for the AEC industry to unlock productivity and solve the climate crisis. One of the most revolutionary aspects of the loadmodeling.tool is that it is web-based, which presents a new opportunity for mechanical engineers as the majority of their tools are only available via desktop platforms that haven't evolved much in the last few decades. As it is web-based, mechanical engineers can access the tool anywhere, including results, which means large files aren't having to be transferred or shared manually.

## Sustainable Solutions

**Winner:** Taco Comfort Solutions

**Booth #B1639**

**Innovation:** System M

The ultra-efficient System M consists of a sleek, whisper-quiet, inverter-driven outdoor heat pump that can be up to 4 times more efficient than a gas furnace. The outdoor heat pump seamlessly integrates with Taco's exclusive indoor HydroBox to provide a complete system with just 6 pipe connections needed. System M is a radically innovative air-to-water heat pump system that provides comfortable, efficient heating, cooling, and plenty of domestic hot water. A true plug-n-play appliance, its packaged design makes installation less intrusive; no refrigerant or gas lines are needed. System M seamlessly integrates with almost any high-efficiency heating and cooling system and is perfect for both new construction and existing HVAC systems. The installation time is half of a typical air-to-water heat pump by eliminating the work to design,



procurement, and installation of all the required hydronic components. Just 6 connections needed; 2 connections to the heat pump,

2 connections to the domestic hot water tank (DHW) and 2 connections to the heat and cooling system.

## Tools & Instruments

**Winner:** NAVAC Inc.

**Booth #C6364**

**Innovation:** Breakfree® Power Flaring Tool

NAVAC NEF6LM BreakFree® Power Flaring Tool yields accurate, hassle-free tubing flares in a fraction of time compared to traditional flaring methods. Designed to perform reliably in harsh environments, NEF6LM also allows one-button, one-hand operation. The tool is equipped with a high-performance rechargeable battery that makes over 100 flares per charge. Manual flaring is rough and inconsistent, very much depending on the operator's experience level. As a result, distorted flares are made all the time, which causes leaks in connections. Refrigerant leak is a major service issue, especially for ductless VRF systems with many flared connections. NAVAC BreakFree® Power Flaring Tool NEF6LM delivers a fully automatic flaring operation and provides the ultimate quality of flares that an excellent experienced technician could achieve in years to be delivered simply by pressing a button. This greatly improves the efficiency and accuracy of tubing works and greatly reduces the refrigerant leaks in HVAC systems.



## Ventilation

**Winner:** SmartD Technologies

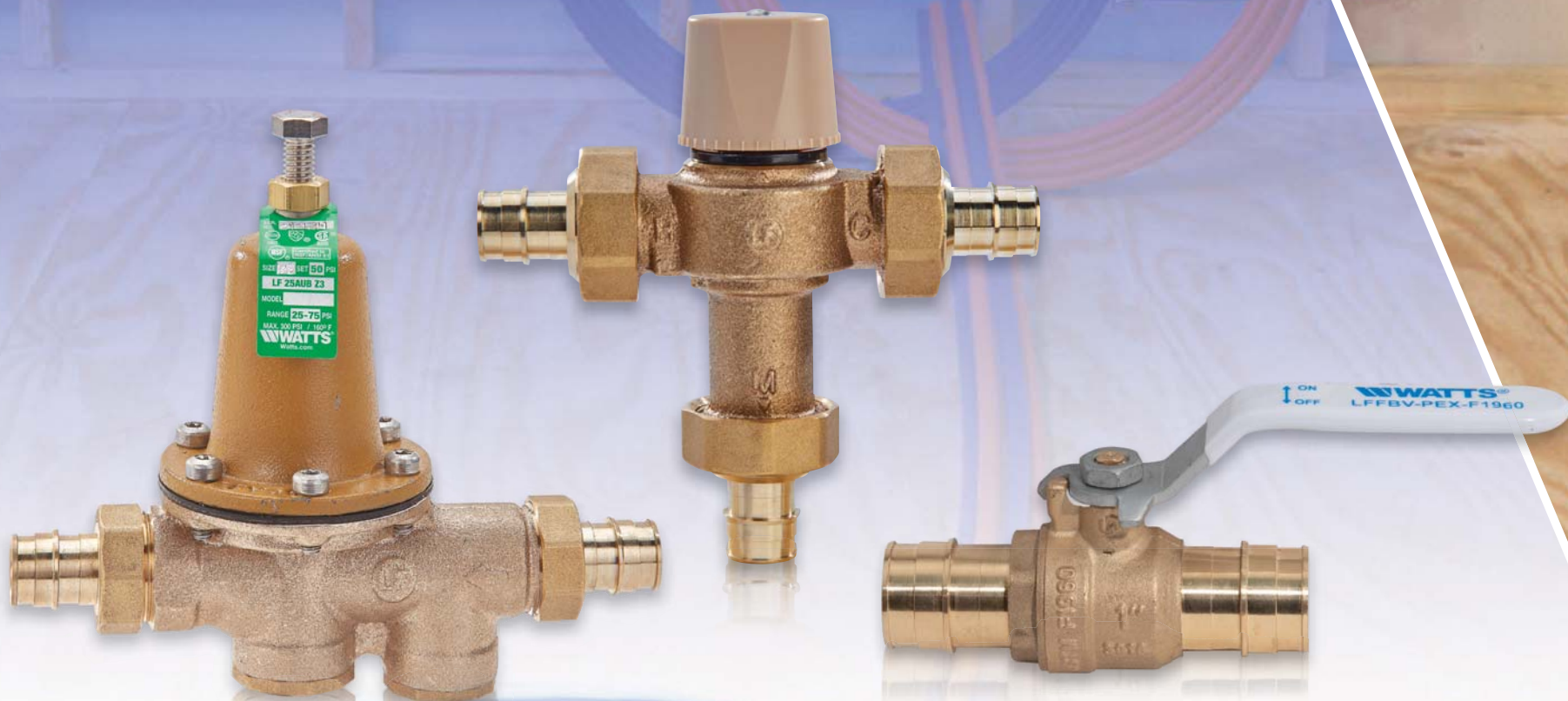
**Booth #C5948**

**Innovation:** SmartD Clean Power VFD

SmartD's Clean Power Variable Frequency Drive changes the motor control landscape. By delivering a clean, sinusoidal signal it reduces motor system losses by up to 40% and extends motor lifetime in a compact footprint that can be deployed without ancillary filters. The SmartD VFD integrates wide-bandgap (WBG) semiconductors into its multi-level inverter architecture and combines them with patented modulation algorithms to produce a pure-sine wave electrical signal without the need for external filters. WBG semiconductors have intrinsic characteristics that make them more efficient: on-state losses are 10–80% lower and switching losses are 9 to 30 times lower than standard IGBTs. While the benefits of WBG are clear, they are but a piece of the SmartD innovation equation. **C**



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# Sal Gattone Elected President of PMI's 2023 Board of Directors

► Continued from page 1

Way, Lavelle Industries; board secretary/treasurer Cambria McLeod, Kohler Co.; and at-large directors Kevin Campbell, Moen, Inc.; Daniel Gleiberman, Sloan Valve Co.; Bob Neff, Delta Faucet Co.; and Belinda Wise, Kerox, Ltd.

**Board members approved, Rethink Water initiative launched at 68th Annual Meeting of the Membership.**

"I am delighted and honored to lead as the next president of the PMI Board of Directors," Gattone stated. "We are at a pivotal juncture. Record-breaking temperatures this summer, combined with historic drought conditions, remind us of the urgency with which we need to act to tackle water conservation challenges at every level of government. In collaboration with my colleagues at PMI, we will continue to focus on water efficiency, advising key



The 2023 PMI Board of Directors (left to right): Bob Neff, Delta Faucet Co.; Belinda Wise, Kerox, Ltd.; Daniel Gleiberman, Sloan Valve Co.; 2023 board vice president Chip Way, Lavelle Industries; 2023 board president Sal Gattone, LIXIL; 2023 board secretary/treasurer Cambria McLeod, Kohler Co.; Kevin Campbell, Moen, Inc.; and 2022 board president Martin Knieps.

stakeholders on proactive measures we can implement to advance responsible use of our water resources."

Gattone thanked Knieps for his contributions as the 2022 PMI board president. He also announced that the 69th Annual Meeting of the Membership will be held as part of the PMI23

Manufacturing Success Conference from Oct. 23-26, 2023, at the Lotte Hotel in Seattle.

In remarks summing up 2022, Knieps recognized PMI member companies that joined during the year – BOCCHI, Speakman and Uponor. He presented the PMI President's Award to



Troy Benavidez, leader, international governmental relations and policy, LIXIL International.

## PMI Introduces Rethink Water Initiative

PMI's Rethink Water initiative is an effort to assure clean and safe water for future generations by building a coalition of individuals, organizations and policymakers with a shared vision of sustainably managed water.

Knieps introduced a video about the initiative and emphasized the importance of addressing the water shortages caused by climate change and aging infrastructure. Rethink Water is one of an "amazing array of forward-looking initiatives" PMI has planned for 2023 and beyond, he said. Knieps also announced the new Paul Patton PMI Conference Scholarship, named after the late former PMI president, to be awarded each year to provide complimentary attendance to the PMI Manufacturing Success Conference.

During his state of the association report, PMI CEO/Executive Director Kerry Stackpole recognized the contributions of the PMI board, committee leaders, staff, and business support team. He named Kate Olinger, director, industry and regulatory affairs, Uponor, as the recipient of the PMI Ambassador Award, given each year to an employee of a PMI member company. 

# Taco Mourns the Loss of John Hazen White III

► Continued from page 1

school years, starting in maintenance and working his way through many departments. His experience also included a position with B.J. Terroni Company in Bensalem, PA. His Taco career path led to his most recent position as SVP, North American OEM Sales.

The statement goes on to say:

"He was loved by Taco employees and his customers as much as he loved them.

"Everyone who knew John experienced his caring, big-hearted personality and sense of humor. He had a passion for creative writing, reading, traveling, and most of all spending




time with friends and his family. He was most proud to be the husband to Katelyn White, and father to his daughter, Madison Marie."

White is survived by his wife Katelyn, daughter Madison Marie, parents John and Elizabeth White, brother and sister-in-law Benjamin and Kirsten White, their daughter Winona Rose, and grandmother Rose Ann Stair. He is also survived by his in-laws Brett and Rosanne Zerba, Diane Zerba, sister-in-law and husband Meghan and Charles

Amos and their children Bradley and Cassidy, and brother-in-law and fiancé Brett Zerba and Jackie Giardina, and Katelyn's grandmothers Marie Zerba and Rita Surdyka. He is preceded in death by grandparents John and Happy White, Clark Stair, Richard Zerba and Edward Surdyka.

In lieu of flowers, the family asks those concerned to consider donating to the John Hazen White III Endowed Scholarship at Community Preparatory School, 135 Prairie Ave, Providence, RI 02905.

Online donations can be made to the John Hazen White III Endowed Scholarship at <https://www.communityprep.org/pages/ways-to-give>. 

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# Q&A with ASPE's Jim Zebrowski

► **Continued from page 20**

We also have outreach programs at colleges and even in grades eight through 12. It's important to get young people thinking that the plumbing industry is vital to the health of, well, the world. We've had people at the chapter level, and the society level, going to those schools to get the word out.

**HPAC:** *How would you say today's engineering graduates are different from you and your classmates when you entered the field way back when?*

**JZ:** Certainly, the internet is a real advantage now. It's a great resource. Granted, you still have to be careful sorting through all that stuff to see what's valid and what's not. But I think back to early in my career when I had to design a water storage tank or a fire protection system for an entire school. I'd have to take those big black binders of NFPA code books off the shelf and sit and go through them. But now you can just do 'keyword' searches online and find your answers a lot quicker. So that's a big advantage for designers these days.

What I would like to see more of is—and I hate to distinguish people by age groups—but many younger designers now tend to value their time such that they just leave work at the end of the day. And I agree that it is important to separate your work life and your home life. But it's also important that if they want to advance and contribute more, they may want to attend an ASPE or ASHRAE meeting to learn more.

I've come to realize over the years that education is really what's going to help you to move on. It helps you in your job and helps you in your career. So you should really take advantage of the opportunities out there. The more you know, the more valuable you are. Sure, you can get CEU's online. But you should also get out to meetings, too. Network with people. That's really important, and I think many are missing out on that.

**We've got to get young designers up to speed and interested and into leadership positions. After all, they are the future leaders of our group.**

**HPAC:** *At this stage of the pandemic, mask restrictions have been dropped and so many have been vaccinated and boosted. It seems like there is a hunger among many in the industry to get back out there. Indeed, there seemed to be a real energy at the ASPE Convention in Indianapolis in September. Do you think that enthusiasm will continue to grow?*

**JZ:** I do. I think our recent convention and even our symposium last year in San Diego have shown that our people are feeling like they are done with the pandemic time and are ready to get back out and see things... We do our convention and expo every two years, and in the intermediate year, we do our technical symposium. We've got our next one of those coming up in Bellevue, WA, September 28 to October 1, 2023. That's more focused on the educational seminars, but does include a smaller products show for the local vendors there.

As you noted earlier, "next generation" is an issue, and that's something that all engineering groups and societies like ASPE and ASHRAE need to address. We've got to get young designers up to speed and interested, and into leadership positions. After all, they are the future leaders of our group.

**HPAC:** *Lastly, I read in an earlier interview that you had done with ASPE a few years ago that you counted being a student of military history among your hobbies and you noted separately that the great World War II film Casablanca was your favorite movie. It is also one of my favorites. It occurred to me that issues of character, courage, and even sacrifice are common to both those areas of interest? How would you say those traits have influenced your career and how might they help to guide young engineers joining the profession today?*


**JZ:** That's a very interesting question. Yes, 'Casablanca' is my favorite movie, and if it's one of yours, then you understand, too. That does represent self-sacrifice, and at least as important, character, too. In my opinion, I really think character is all you have to go by. That is what you will be remembered for, your character. And that's something you've got to live up to every day.

As an example, about three years ago, even before the pandemic, I started this online fitness program, and I've been able to stick to it. They do a good job with the trainers they get to motivate you, and one of the things they say has really stuck with me. When you're near the end of your workout and you really want to quit, they say, "You can't quit now. You have to honor this workout. Honor your body."

I think that parallels how I feel about work. Each day you go into work, I think you need to honor your job. Honor your profession. Focus, follow through, and deliver... That's the way I live, and that really has helped me in my approach.

**HPAC:** *Well, that seems like a great place to end here. Thanks so much for your time, Jim. Maybe we can check back in with you in a year for a halftime report on your two-year term.*

**JZ:** A "focus and deliver" pulse check. I'd like that. Thanks so much for having me here today.

To read the latest installment of Zebrowski's "From the President's Keyboard" blog, visit [www.aspe.org/pipe-line/november-2022-from-the-presidents-keyboard-does-your-chapter-have-an-ambassador-program/](http://www.aspe.org/pipe-line/november-2022-from-the-presidents-keyboard-does-your-chapter-have-an-ambassador-program/). 

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## P1 Service Group Announces Partnership With McHales

CHICAGO, IL – P1 Service Group, an industry-leading growth partner that provides world-class resources to its home service partner companies across the country, announced today that it has entered into a partnership with McHales, Inc., an award-winning home services company based in Levittown, Pennsylvania, adding to P1's operations in the greater Philadelphia region.

For nearly 70 years, McHales has served the Levittown community by providing a variety of home service options, including plumbing, heating,

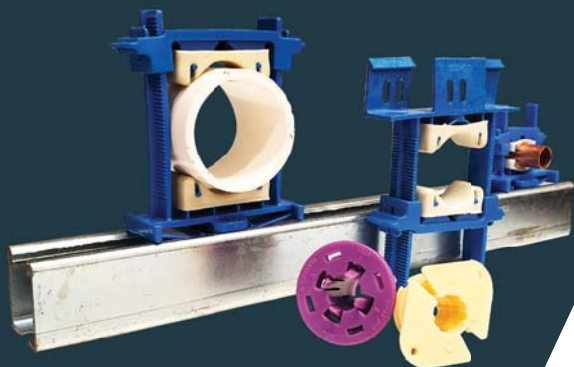
cooling, electrical, and kitchen and bath remodeling. The company has also given more than \$25,000 to local charities since 2019 through its McHales Cares program.

"This partnership will allow us to take our company to the next level," owner Tim McHale said. "They have enabled my team to flourish."

For more information about P1 Service Group, visit [www.p1servicegroup.com](http://www.p1servicegroup.com). P1 Service Group is financially backed by River Sea Network and The Edgewater Funds. 



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# Ferguson Uses Innovative Robots to Transform the Supply Chain

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Step inside Ferguson's new Market Distribution Centers (MDCs) and you will see a future where robots work together, sorting and picking products in two recently opened automated distribution centers.

The MDCs, located outside of Denver, in Aurora, Colorado and outside Phoenix in Chandler, Arizona, house the innovative technology running a collection of "robots" that carry out tasks within a physical grid. One supercomputer manages each robot's action, automating the tracking, gathering, organizing and pulling of orders from thousands of bins stacked on top of one another within the facility. By way of example, the Aurora facility's 16,000-square-foot system holds 49,000 bins and 26,000 products.

**State-of-the-art technology leads to productivity and energy-efficiency gains.**

Supplementing a human workforce with the new robot technology allows distribution centers to process more orders in a shorter amount of time. That's welcomed news for customers and businesses that rely on distribution centers for the delivery of their goods quickly and efficiently. Additionally, robots deliver energy consumption savings—helping Ferguson achieve its carbon reduction goals.

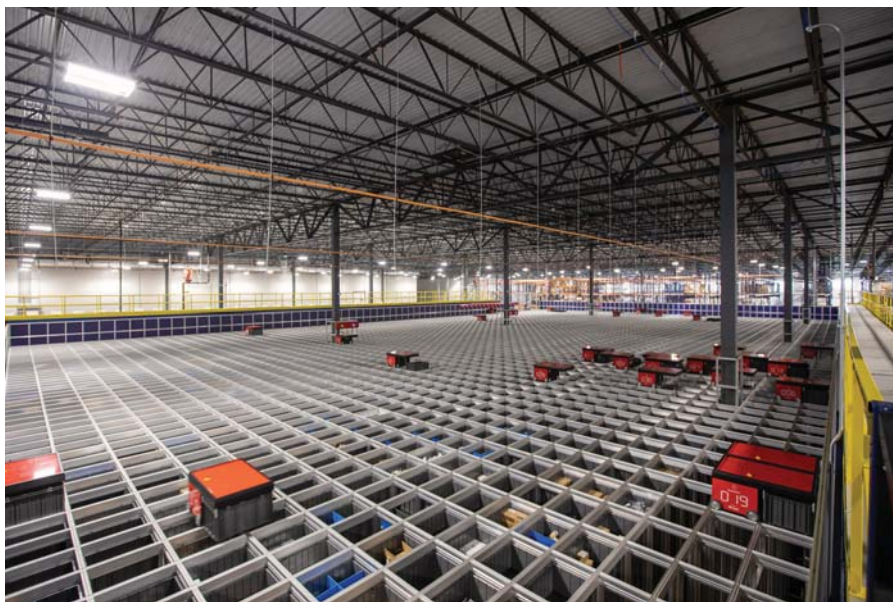
## Productivity and Efficiency

With energy-conserving motors and regenerative power, each robot uses about 100 watts of power, a tenth of an average toaster, enhancing the overall energy efficiency of the MDC.

"The robots work all day and night, saving on traditional warehouse costs



**There is still a need for associates in distribution centers to run the technology, focus on complex tasks and deliver quality customer service.**



**Supplementing a human workforce with the new robot technology allows distribution centers to process more orders in a shorter amount of time.**

and allowing us to fulfill orders quickly for faster same-day product availability," says SVP of Supply Chain Michael Jacobs. "The system also decreases manual handling of materials."

In addition to the automation technology, the facilities were built with efficiency at the forefront. Ferguson uses a special machine to make custom boxes based on the dimensions of each product to minimize packaging waste. Each building features LED motion detector lighting systems to conserve electricity.

## Will Robots Replace Humans?

Introducing robotics in the MDCs is part of Ferguson's overarching supply chain strategy—a combination of leading technology, great sourcing relationships and processes, and the best associates in the industry—to deliver an exceptional customer experience. The extensive network places Ferguson within 60 miles of 95% of the population.

But robots can't do everything humans can. Better than any robot, Ferguson associates are highly skilled and perform the complex tasks to meet our



**Better than any robot, Ferguson associates are highly skilled and perform the complex tasks required to meet customers' needs.**

customers' needs. In fact, the Chandler facility added 75 new jobs to the area and employs approximately 200 associates. So, while robots may perform some aspects of the job, there is still a need for associates in distribution centers to run the technology, focus on complex tasks and deliver quality customer service.

Ferguson plans to build two or three new MDC facilities annually over the next several years creating opportunities for jobs and innovative, sustainable practices. **G**



# Bradley Donates for Hurricane Ian Relief

MENOMENEE FALLS, WI — Following the devastation of Hurricane Ian in Florida, Bradley Corporation has donated hand sanitizer dispensers and supplies to support hand hygiene of community members helping with relief efforts

The product donation came about when Bradley's national sales manager, Brian Jurkiewicz, and regional sales manager, Mike Logan, brainstormed with Karen Lott, Bradley territory business manager, to determine the most impactful ways to help ongoing aid and cleanup endeavors.



Pictured is Chris Sunkel, Suncoast Supply (left), Karen Lott, Bradley Corp. (center) and Thomas Dupres, Suncoast Supply.

## Supporting Front-Line Workers

"Places like fire stations, hospitals, veterinary clinics and food banks were overrun with people—and many of these facilities had no access to running water for handwashing," said Karen Lott, Bradley territory business manager. "Since Bradley manufactures products that support hand hygiene, we thought we could help by providing hand sanitizing equipment to disinfect hands of those working the front lines.

The donation included gallons of hand sanitizer gel, a pallet of stainless steel hand sanitizer dispensers—with stand-alone and wall-mounted units—and batteries to operate the dispensers.


Lott said she knew Fort Myers-based Suncoast Supply Company and Sean Filiault, outside sales representative for Suncoast, would make a great partner for coordinating the distribution of donation. "Sean didn't skip a beat in helping us disperse the dispensers and supplies to groups of community members exactly where they were needed."

## No Easy Feat

Bringing this idea to fruition was no easy feat in the aftermath of Ian, which strengthened to a Category 4 storm as it made landfall west of Fort Myers, FL. A few days after, Lott drove to deliver the hand sanitizing equipment only to

find houses were under water, roadways were blocked with uprooted trees and branches, and the national guard was directing alternate traffic routes.

"We were more than happy to partner with Bradley to execute their very generous offer," said Filiault. "I recently

dropped off hand sanitizing equipment to a local restaurant that is heavily rooted in local foster care donations, as I knew they are and have been providing free meals to the community since the storm. Hand sanitation in places like these should be priority." 

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# Viega, RIDGID Donate to Support Tools & Tiaras

► **Continued from page 3**

male-dominated fields like mechanical, industrial, technical and the trades.

For years, swinging a hammer or turning a wrench have been positions filled by men. In fact, 98% of electricians and plumbers are male, as is 89% of the construction industry, according to the 2021 report “Skilled Trades in America” by Angi. The percentages also show that black, indigenous, and people of color (BIPOC) are greatly underrepresented—only 9% of plumbers are BIPOC.

Cassidy has a passion for turning those numbers around. She’s a history-making plumber with more than 25 years of experience and started Tools & Tiaras with the idea that “jobs don’t have genders.” Her organization helps girls who have an interest in any area of construction. Through monthly workshops and summer camps, girls learn from other women in skilled trades and build confidence to pursue a nontraditional career path.

This year, Tools & Tiaras hosted an event in recognition of the 10th anniversary of International Day of the Girl, which was adopted in 2011 by a United Nations General Assembly resolution. Each girl got an opportunity to build her very own “Mighty Minka,” Tools & Tiaras’ signature Strong-Willed Warrior. Mighty Minka represents the core of the Tools & Tiaras’ message, “Where strong girls are forged.”



Judaline Cassidy provides inspiration during the event. A “Mighty Minka” figure is on the left side of the picture.


“I had this vision for Mighty Minka as a really cool way to introduce our T&T girls to copper pipe plumbing,” said Cassidy. “I built the prototype, and

fittings. But copper fittings are expensive, especially for a grassroots nonprofit like us. When Viega heard about our workshop, they swooped in and offered to supply us with all the fittings our girls would need to build their own Mighty Minkas. We were so excited!

It’s invaluable support like this that helps us do what we do and keep our summer camps and monthly workshops free to every interested girl. We’re grateful to have friends like Viega who choose to join our mission of showing girls that ‘Jobs Don’t Have Genders™.’”

Viega donated 80 ProPress fittings for them to use to build Mighty Minkas. “Being able to support an event like this means there will be more skilled tradespeople working in this industry in the future,” said Tricia Musgrave, Director, Customer Success and Training of Viega. “Teaching girls how to use press technology is a great way to show them what is possible as a career path and how easy it is to learn how to press. The confidence they build gets them excited about learning more. Tools & Tiaras is absolutely right—jobs don’t have a gender and we were thrilled to be involved.”

Visit <https://www.toolsandtiaras.org/> to learn how to get involved, volunteer for events or start a local Tools & Tiaras chapter in your city.

Learn more about Viega’s in-person and online training programs at <https://www.viega.us/en/resources.html#training>. 

**Tools & Tiaras works to advance the interest of girls 6-14 who want to pursue mechanical, industrial, technical and skilled trades careers.**

she was more amazing than I imagined! She’s the perfect embodiment of what we do at T&T and what International Day of the Girl is all about. I knew I had to make this happen.

“Our friends at RIDGID stepped up with their new copper pipe press tool, and all we needed were the

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## Bradford White Makes \$30,000 Donation to Philabundance

AMBLER, PA— Bradford White Corporation, an industry-leading American manufacturer of water heaters, boilers and storage tanks, is providing critical support for the fight against hunger this holiday season with a \$30,000 contribution to Philabundance.

The donation, part of Bradford White’s 30<sup>th</sup> anniversary celebration, will help Philabundance’s year-end food distribution program which provides holiday food items to individuals and families struggling with food insecurity in the Greater Philadelphia area, including Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania. Bradford White team members are also participating in Philabundance’s virtual food drive Nov. 16-Dec. 2.

“Bradford White is committed to helping build stronger communities and ensuring our neighbors

have the opportunity to experience a happy holiday season,” said Rebecca Owens, senior manager, communications, at Bradford White. “We’re proud




to work with Philabundance to serve families in need and demonstrate our ongoing support for the communities where we live and work.”

Philabundance was founded in 1984 with the simple belief that no one

should go hungry while healthy food goes to waste. Philabundance’s mission is to drive hunger from our communities today and to end hunger for good.

For more information about Philabundance, visit <https://www.philabundance.org/>.

For more information about Bradford White Corporation, visit <https://www.bradfordwhite-corporation.com>. 

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# Q3 2022 Kitchen & Bath Market Index Tracks Slowdown

BETHLEHEM, PA — The National Kitchen & Bath Association (NKBA), the world's leading not-for-profit trade association for the kitchen and bath industry, has released its Kitchen & Bath Market Index (KBMI) for Q3 2022. The overall market index of 63.2 is the lowest it has been since Q3 2020 and the future conditions rating of 55.4 is at its lowest level since Q1 2020. Both are indicative of industry professionals' prediction that the current economic slowdown will continue.

## The KBMI

The quarterly KBMI report assesses the overall health of the kitchen and bath industry, along with issues and challenges that industry professionals



are facing with their businesses. On a 100-point scale, KBMI ratings above 50 indicate industry growth, while ratings below 50 indicate slowing activity.

While Q3 2022 ratings remain above 50 across all segments (Design, Building & Construction, Retail Sales and Manufacturing), their deceleration is indicative of the industry managing its expectations as consumer demand slows and recession concerns rise. Additionally, Q3 2022 KBMI indicates a 1.3 percent decline in full-year 2022

sales expectations, versus full-year growth expectations of 9.4 percent reported in Q2 2022—this after two banner years of gains during formidable obstacles.

As a result of current trends, industry professionals are proactively adapting their business strategies. Design firms have altered materials/finishes used on projects; building and construction firms have limited estimates to 30 days, and retailers have scaled back on orders from manufacturers.

“While the index remains above 50, which continues to indicate expansion, there is understandable concern around current and predicted economic conditions, and the potential impact on the kitchen and bath industry leading into 2023,” said Bill Darcy, NKBA CEO. “One lesson we have all learned over the past two years, however, is that adaptability is the key. For instance, we see it with design firms currently leveraging new brands for better lead times and availability – as well as those who feel their businesses are well-prepared and positioned to meet the challenges of an economic slowdown.”

## Key Findings

**“Recessionary Fears” are real.** Industry professionals report that ‘fear of recession’ is what keeps them up at night, with 24 percent rating this as their top concern. This is followed by the availability and cost of skilled laborers (20%) and cost of materials (17%).

**Demand continues to slow.** For Q4 2022, 31 percent of design firms expect a decrease in new project leads. Additionally, project cancellation/postponement rates are the highest they’ve been in 2022, as reported by 75 percent of building and construction firms, and 65 percent of design firms.

**The kitchen & bath industry still has pricing power.** Despite steadily increasing inflation impacting nearly every product category, 61 percent of industry professionals report margins on par with a year ago. As consumers become increasingly budget conscious, however, they are pushing back on price increases and/or pausing remodeling projects, likely causing pricing power to wane.

**Agility is key in the face of changing economic conditions.** 47 percent of kitchen and bath professionals are highly confident in their preparedness for an economic downturn. Expectations of a 2023 downturn are high as inflation and interest rates increase.

To request the full report, contact Brittany Loeffler at [bloeffler@whitegood.com](mailto:bloeffler@whitegood.com).

# ASCE and Accelerator for America Release Map to Showcase Infrastructure Projects

RESTON, VA — The American Society of Civil Engineers (ASCE) in partnership with Accelerator for America today announced the release of a new map which features projects that are getting underway with funding from the Infrastructure Investment and Jobs Act (IIJA), otherwise known as the Bipartisan Infrastructure Law (BIL). As the one year anniversary of the BIL approaches on November 15th, funding has been steadily making its way to state and local agencies across the nation, and now it is

possible to track how communities are benefiting from investments.

The Bipartisan Infrastructure Law invests in all 17 of the infrastructure categories included in ASCE’s 2021 Report Card for America’s Infrastructure, which was released eight months before official passage of the law and had assigned our nation’s infrastructure a cumulative grade of ‘C-’. Communities are now benefiting from replaced lead service lines, safer roads and bridges, and new transit connections.



## Communities Large and Small

“The Bipartisan Infrastructure Law is improving communities large and small, but many Americans aren’t aware of how this law will impact their day-to-day lives,” said Maria Lehman, ASCE president. “This tool will show families how traffic along their morning commutes is going to be alleviated, why they’re experiencing less interruptions in energy services, or why their tap water will be safer to drink.”

Leveraging current data on infrastructure conditions, the map pairs statistics from ASCE’s Infrastructure Report Card with testimonials from elected officials around the country discussing the importance of the BIL to their city or state’s community. This is part of a larger effort from ASCE to track all investments and rule-makings by infrastructure sector for their 150,000 members working in communities across the country.

To view the map, please visit <https://infrastructurereportcard.org/bil-project-map/>.

# Dodge Momentum Index Continues to Climb

HAMILTON, NJ — The Dodge Momentum Index (DMI), issued by Dodge Construction Network, improved 9.6% (2000=100) in October to 199.7 from the revised September reading of 182.2. During the month, the DMI continued its steady ascent, with the commercial component rising 13%, and the institutional component ticking up 2.9%.

Commercial planning was bolstered by a solid increase in office and hotel projects. The institutional component was varied, experiencing growth in recreational and education projects, countered by a decline in the number of healthcare and public planning projects. On a year-over-year basis, the DMI was 28% higher than in October 2021, the commercial

component was up 29%, and institutional planning was 25% higher.

A total of 15 projects with a value of \$100 million or more entered planning in October. The leading commercial projects included a \$206 million expansion to the M Resort in Henderson, NV. The leading institutional projects comprised of the \$500 million uCity Square Lab & Office Complex in Philadelphia, PA, and the \$294 million life science R&D laboratory complex in San Carlos, CA.

The DMI is a monthly measure of the initial report for nonresidential building projects in planning, shown to lead construction spending for nonresidential buildings by a full year. [C](#)

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temperature range from 95° F to 140° F), and can be equipped with an optional thermostatic disinfection cartridge.

**Jomar Valve**

[WWW.JOMAR.INFO/RECIRCSETTER](http://WWW.JOMAR.INFO/RECIRCSETTER)

## #2 SIGNATOUCH IN-SHOWER CONTROLLER

from ThermaSol is a streamlined, 5" LCD control that manages lights, music, precision water/temperature control and shower outlet selections. Features the ability to mount the control vertically or horizontally to the interior shower wall, flush/wall-mounted or recessed, built-in Bluetooth, two customizable user settings, and 15 designer finishes. It is compatible with HydroVive 14 and 18.



**ThermaSol**

[WWW.THERMASOL.COM/PRODUCTS/CONTROLS/SIGNATOUCH-5-LCD-CONTROL](http://WWW.THERMASOL.COM/PRODUCTS/CONTROLS/SIGNATOUCH-5-LCD-CONTROL)

## #3 ELECTRONIC WATER HEATER LINE



GE Appliances features flexible capacity units with normal, high and extra-high-capacity settings in 50-, 40- and 30-gal. tank sizes. When more hot water is needed, the high and extra-high-capacity settings activate the integrated, electronic mixing valve to maximize performance. Units can be easily installed using the same connections as standard water heaters. All models feature built-in Wi-Fi and intuitive digital controls, and displays that offer precise temperature control.

**GE Appliances**

[WWW.GEAPPLIANCES.COM](http://WWW.GEAPPLIANCES.COM)

## #4 FLEET MANAGEMENT SUITE



from Ford Pro is the latest addition to software offered under the Ford Pro Intelligence fleet management solutions for small businesses. Ford Pro Fleet

Management Software is a cloud-based, easy-to-manage program that digitizes full fleet vehicle reports and tracks total cost of ownership in real-time. It tracks important data on vehicles of any make, both Ford and non-Ford, as well as gas and electric models. Ford Pro Title and Registration manages vehicle title-related concerns.

**Ford Motor Co.**

[WWW.FORDPRO.COM/EN-US](http://WWW.FORDPRO.COM/EN-US)

## #5 COMMERCIAL HEAT PUMP WATER HEATER LINE

consists of 20 models ranging from 25,000 to 250,000 Btu/hr. and have modular installation capabilities up to 2 million Btu/hr. This state-of-the-art line gives engineers and contractors additional options to meet energy-savings and sustainability goals.



**Lochinvar**

[WWW.LOCHINVAR.COM](http://WWW.LOCHINVAR.COM)

## #6 RHEEM IKONIC TANKLESS GAS WATER HEATER

delivers a 0.96 UEF, resulting in up to a 36% reduction in energy use and carbon footprint and up to a 65% reduction in NOx emissions. It features a built-in recirculation pump (SR models), integrated Wi-Fi technology, Hot Start Programming (which keeps the water heater in a ready state for five minutes between back-to-back usage), and a dual stainless-steel heat exchanger. Users can control temperature adjustments, track energy use and recirculation mode modifications via the EcoNet mobile app.

**Rheem Manufacturing Co.**

[WWW.RHEEM.COM](http://WWW.RHEEM.COM)



## #7 SERIES 200 HIGH-CAPACITY VACUUM BREAKER

from Warren Controls is designed for outdoor tanks in areas where falling temperatures could cause the tank to collapse. The unit opens gradually to admit outside air to relieve the vacuum in the tank, caused by falling liquid levels and condensing steam. This eliminates possible damage. Available in cast-iron, carbon-steel and stainless-steel bodies and seats, the Series 200 is offered in sizes ranging from 2" to 12".



**Warren Controls**

[WWW.WARRENCONTROLS.COM](http://WWW.WARRENCONTROLS.COM)

## #8 WATER HEATER SERVICE VALVE KITS

from Webstone simplify the installation of water heaters and isolate the water supply and other peripheral devices for service. Hot and cold connection solutions are available with options for unique installation needs, including isolation valves, vacuum relief valves, and expansion tank service valves. All kits feature FIP dielectric unions for connection to the water heater, and press or sweat options for connection to system piping. All products are forged from lead-free, dezincification-resistant brass.

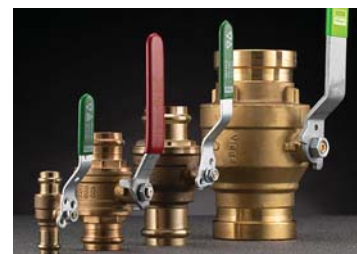


**Webstone**

[WWW.NIBCO.COM/BRANDS/WEBSTONE](http://WWW.NIBCO.COM/BRANDS/WEBSTONE)

## #9 MEGAPRESSG VALVES

from Viega are approved for use in gas and fuel oil applications, in sizes ½" to 2". The valves are suitable for use with ASTM Schedule 5 to Schedule 40 carbon steel pipe. The company also launched larger sizes of its MegaPress three-piece ball valves in the 2 ½" to 4" range. In addition, ProPress valves are now available in sizes 2 ½" to 4" for use with copper and stainless CTS pipe.



**Viega**

[WWW.VIEGA.US](http://WWW.VIEGA.US)

## #10 SANICONDENS BEST FLAT CONDENSATE PUMP

from Saniflo combines a condensate pump with pH-neutralizing pellet tray to prevent corrosion in residential and commercial ultra-high-efficiency condensing equipment. The design incorporates two 1" inlets: on the side and the other on the top near the neutralizer tray.



Made of a durable polypropylene, the 12-lb. unit may be installed on a level floor surface or wall-mounted using a plastic mounting guide. The pump inside moves the condensate through a flexible vinyl hose to a PVC discharge pipe, both measuring 3/8" in diameter. The unit can discharge condensate 15' vertically and 150' horizontally.

**Saniflo USA**

[WWW.SANIFLO.COM/US/75-CONDENSATE-PUMPS](http://WWW.SANIFLO.COM/US/75-CONDENSATE-PUMPS)

**#11 PIONEER PUMP ELECTRICPAK** helps users get a pump-and-motor configuration onsite more quickly and efficiently than custom-built units. Each configured assembly includes a high-performance pump and electric motor. The robust design also



features a rigid motor stool that keeps the pump and motor permanently aligned, eliminating the need for alignment work upon delivery. The modular system, combined with an extensive range of motor choices, allows users to select the most efficient pump based on the duty point.

**Franklin Electric Co.**

[GOTO.FRANKLINWATER.COM/ELECTRICPAK](http://GOTO.FRANKLINWATER.COM/ELECTRICPAK)

**#12 VST CONDENSING TANKLESS WATER HEATER** from Vesta features a dual stainless-steel heat exchanger; a low-NOx, metal-fiber burner; 2" forced-draft direct venting (up to 60"); easy field conversion from natural gas to liquid propane; and a Uniform Energy Factor of 0.95. The indoor, wall-hung unit is available in four models: VRP-150 and VRS-150 (19,900 to 150,000 Btu/hr.); VRP-199 and VRS-199 (19,900 to 199,000 Btu/hr.). The minimum flow rate is 0.1 gal. per minute for VRP models; 0.5 GPM for



VRS models. Temperature range is 98° F to 140° F. VRP models have a built-in recirculation pump with 3/4" NPT connection.

**Vesta**

[WWW.VESTAHWS.COM/](http://WWW.VESTAHWS.COM/)

**#13 T2+ MAX HARD HAT** from WaveCel is lined with its collapsible spatial cellular structure—shell, crown and sides—to provide 360 degrees of protection and better absorb energy from a head impact from all angles. The network of interconnected shock absorbers attenuate impacts through three principal mechanisms: Cells crumple to absorb linear forces, and flex and glide to attenuate rotational forces. It has top and rear vents, accessory rails as well as standard earmuff slots. Its low profile results in less head bumping when working in tight spaces. Due to its lower dome, the hard hat is lighter and feels more stable.



**WaveCel**

[WWW.WAVECEL.COM](http://WWW.WAVECEL.COM)

## #14 INNOVATOR TESTABLE SHOWER DRAIN

from Watco is a receptor-type drain for preformed shower bases. It features the Innovator orange test membrane, testable to 22 psi, which eliminates the need for test balls, caps or plugs. It includes a heavy-duty, snap-on grid strainer, available in four finishes. The E-Z grip installation tabs on the top piece and the squared-off ribs on the bottom receptor aid in tightening and installation. It includes a green, polycarbonate cover to protect the grid finish and prevent construction material from entering the drain.

**Watco**

[WWW.WATCOMFG.COM/INNOVATOR\\_SHOWER\\_DRAIN](http://WWW.WATCOMFG.COM/INNOVATOR_SHOWER_DRAIN)



## #15 VELOCITY R2 WALK-IN VAN

from Utilimaster provides the comfort and agility of a cargo van with the cargo space and access of a walk-in van. Its Class 2, under 10,000 lb. gross vehicle weight rating does not require a commercial driver's license. Exterior rivets have been eliminated for seamless marketing graphics, and the cargo area features both fixed and foldable shelves. Large



bulkhead and passenger doors provide greater access, and the rear storage area's low step-in height maximizes efficiency when entering and exiting. It is equipped with a 360-degree camera system, HD monitor, and backup sensors and alarms. Available in a 12' body with 610 cubic feet of storage and 2,500 lb. of payload.

**Utilimaster/Shyft Group**

[WWW.UTILIMASTER.COM/VELOCITYR2](http://WWW.UTILIMASTER.COM/VELOCITYR2)

## #16 W2000 CUSHION CLAMP

from Walraven is designed for metal pipe applications. Features include one-piece design that installs with one hand, a three-way screw head (Phillips, flat and hex), high-grade zinc-magnesium-based coating (for 600 hours salt spray), black EPDM rubber lining that protects against galvanic corrosion, and noise/vibration insulating lining. Fits multiple pipe sizes.



**Walraven**

[WWW.WALRAVEN.COM/US](http://WWW.WALRAVEN.COM/US)

## #17 GRAVITY TOILET LINE

from Sloan features a one-piece look with the benefits of a two-piece toilet for easier installation while increasing efficiency for a wide range of commercial applications. The tank design features a slightly inverted taper for a modern aesthetic and a raised deck that eliminates rocking. The lid fits perfectly on the tank with no overhang. By eliminating rim holes, Centrifo's dual-delivery bowl technology helps prevent bacteria and germs from collecting in

the bowl. Available in standard 1.6 gallons per flush (GPF), 1.1 GPF and 1.28 GPF volumes, in standard and ADA-compliant models, with 12" and 10" rough-ins, and left- or right-handed flush handles.

**Sloan Valve**

[WWW.SLOAN.COM](http://WWW.SLOAN.COM)



## #18 TIPPING AND REFERRAL FEATURES

from Jobber make it easier for homeowners to reward their service pros directly and support their businesses.



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to offer their customers the ability to add a tip. When enabled, the option to tip appears during the payment process when a homeowner pays their invoice online with Jobber Payments.

**Jobber**

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## #19 DEMO DEMON SPADE BITS

from Diablo Tools feature DEMO-Edge dual cutting edges and a self-feeding Dura-Tip that power through nail hits for a smooth drilling experience and up to 60 times longer life in nail-embedded wood versus standard spade bits. An optimized curved paddle design enhances the chip evacuation process for more holes per charge. Impact Strong technology increases shank stability and durability for maximum performance in impact and drill drivers.



**Freud America/Diablo Tools**

[WWW.DIABLOTOOLS.COM](http://WWW.DIABLOTOOLS.COM)

## #20 NEXUS-LP DISCRETE VALVE CONTROLLER

from SVF is an integrated solution with switches, sensors, pilot and spool valve in a single platform. Suitable for use on rotary applications for double-acting or spring-return actuators. 5/2 aluminum spool valve, anodized and polyester-coated. Single pilot-actuated with manual operator, 2" x 1/2" NPT conduit entries, and NAMUR and ISO 5211 adjustable bracket mounting.



**SVF Flow Controls**

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Here is a selection of 5 articles that will help you navigate this labor turbulence and enable you to develop and maintain your 21st century workforce.

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## WORKFORCE DEVELOPMENT



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NEW EBOOK FROM CONTRACTOR

# Download the Best of Pat Linhardt

Patrick Linhardt is a thirty-seven-year veteran of the hydronics industry who has been designing and troubleshooting steam and hot water heating systems, pumps and controls on an almost daily basis.

Pat has been a regular monthly columnist for CONTRACTOR Magazine since 2019, where his column has become the cornerstone of our Hydronics & Radiant section. We are proud to publish this selection of his recent work, and hope these columns serve to educate and inspire a new generation in the industry.

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## Been There - Boilered That



## Class With the Kid





by Steve Spaulding  
EDITOR-IN-CHIEF



# Personal Best (and Worst)

**A**s Editor-in-Chief of this publication, a lot of what I do is project management (assignments, deadlines, budgets and invoices). But I also get to write the occasional article. This month my contribution is the *Best (and Worst) of 2022* that starts on pg. 6. My main trouble in writing it was that I got too personal. Instead of thinking about the best and worst things to happen in the industry, I kept thinking about the best and worst things to happen to me. I finally decided to lump all the personal stuff together and save it for this, my end-of-the-year editorial.

Some of my best moments this year were at industry events. We've been back to in-person events for more than a year now so you'd think the excitement of going to a show would have worn off—but not for me. I still get a kick from getting face-to-face and shaking hands with people. Maybe the pandemic has just made me appreciate it more?

Back in May I attended the seventh Emerging Water Technologies

Symposium in San Antonio, TX (fantastic town, by the way). It was great to see people from the various stakeholder organizations, every presentation was full of valuable information, and I even got to get up on a podium to moderate a panel

discussion. Normally, I'm terrified speaking in front of a crowd, but the panel was lively, the audience very forgiving of my flubs, and it ended up being a great time.

## In my end-of-the-year editorial, I talk about some of my personal highs and lows from 2022.

This October I was able to attend PHCCCONNECT2022 in Charlotte, NC (and again, it was a chance to enjoy a fantastic city I'd never visited before). I don't think any show I attend better suits the niche this publication occupies. Everyone there had a laser-focus on the plumbing and hydronic heating industry and its problems and potential.

now. The thing I think the trade press is best at is shining a light on those companies and individuals doing extraordinary work; helping to share that work—and the attitude and innovation that made the work possible—with the wider industry.

From new products to government regulation to workforce development, you could not turn around without having a productive conversation.

Other best moments were had sitting right at the desk where I'm writing this

Back in January we named GSM Services our Contractor of the Year. After a mass shooting that left two employees dead, the company re-dedicated itself to serving both its employees and its customers. Most of the article was a series of employee profiles, just people

now. The thing I think the trade press is best at is shining a light on those companies and individuals doing extraordinary work; helping to share that work—and the attitude and innovation that made the work possible—with the wider industry.

talking about their relationships both within the company and with the wider community.

This issue we have a profile of Brent Ridley and his Miracle Mechanical project (pg. 22), dedicated to helping needy families with cost-free plumbing and HVAC services. It's a great example of the good a company can do through the power of partnerships.

In fact, if you look through this issue, we have story after story of businesses partnering, donating, and giving back in ways large and small. I know in hard-news journalism they call these "puff pieces," but I like to be part of an industry that's so community-minded.

So that's some of the best of my year—what about the worst? I suppose I've had a few tough deadlines. And I've had some travel hassles. But looking back, now, somehow it doesn't seem all that bad.

I want to wish our readers a happy, healthy holiday season. Thanks for spending the year with *CONTRACTOR*, and we'll see you all in 2023. **C**

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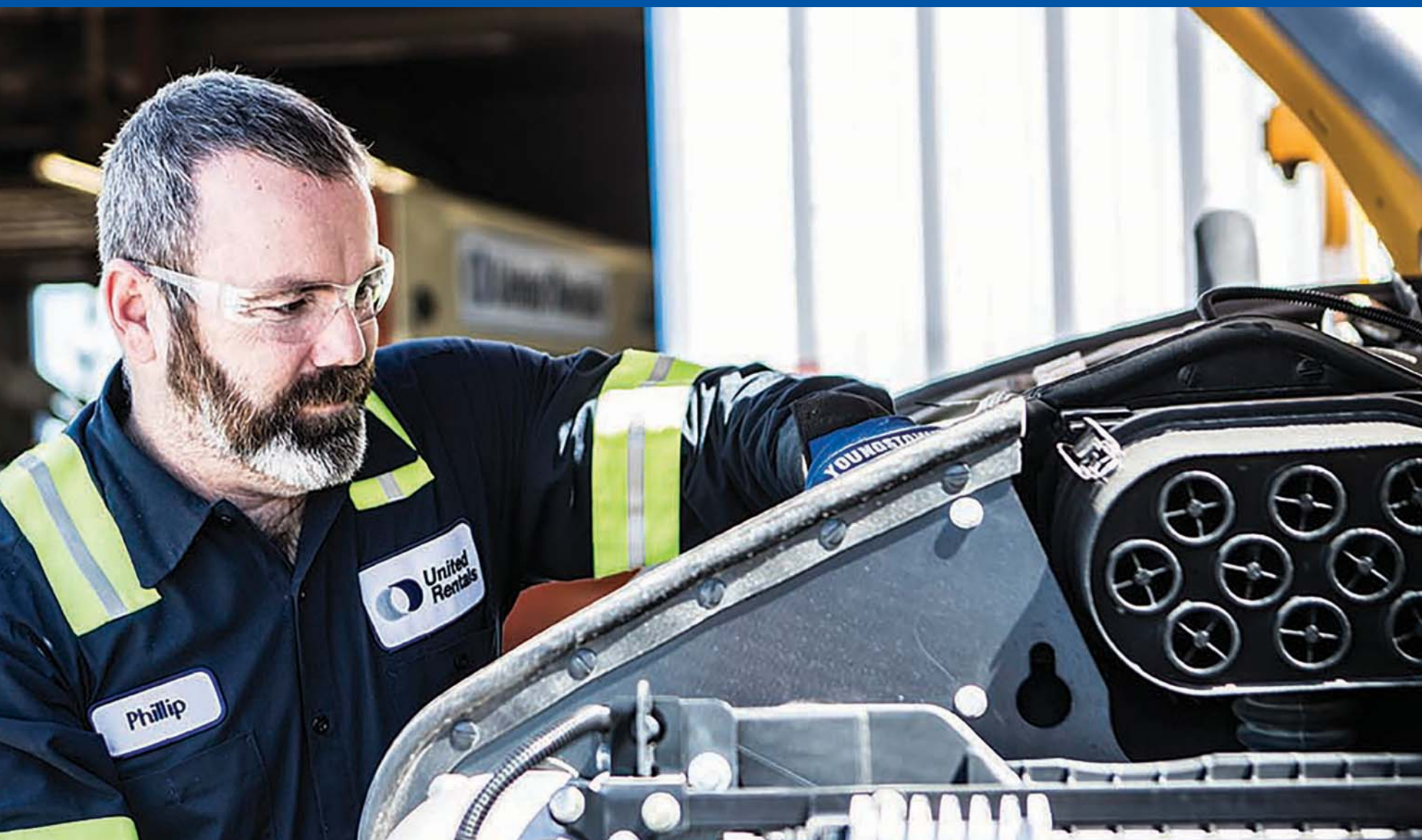
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DCCF-205

Type	Wall Mounted [W x H x D]	Floor Standing [W x H x D]	CH Mode Input	DHW Mode Max.	DHW Flow Rate
COMBI	<b>DCC-115</b> [17 3/4" x 30" x 13 9/16"]	<b>DCCF-115</b> [24 3/4" x 43 3/4" x 17 1/2"]	16.6 - 93.5 MBH	115.5 MBH	2.5 GPM
	<b>DCC-150</b> [17 3/4" x 30" x 13 9/16"]	<b>DCCF-150</b> [24 3/4" x 43 3/4" x 17 1/2"]	22.0 - 125 MBH	153.0 MBH	3.5 GPM
	<b>DCC-205</b> [17 3/4" x 30" x 21 1/2"]	<b>DCCF-205</b> [24 3/4" x 43 3/4" x 23 1/2"]	29.5 - 164 MBH	205.0 MBH	5.0 GPM
HEAT ONLY	<b>DCB-75</b> [17 3/4" x 30" x 13 9/16"]	<b>DCBF-75</b> [24 3/4" x 43 3/4" x 17 1/2"]	16.6 - 75 MBH		
	<b>DCB-100</b> [17 3/4" x 30" x 13 9/16"]	<b>DCBF-100</b> [24 3/4" x 43 3/4" x 17 1/2"]	16.6 - 93.5 MBH		
	<b>DCB-125</b> [17 3/4" x 30" x 13 9/16"]	<b>DCBF-125</b> [24 3/4" x 43 3/4" x 17 1/2"]	22.0 - 125 MBH		
	<b>DCB-165</b> [17 3/4" x 30" x 21 1/2"]	<b>DCBF-165</b> [24 3/4" x 43 3/4" x 23 1/2"]	29.5 - 164 MBH		





**NEW**

# RE-Series™

The most advanced non-condensing tankless water heater that delivers installation ease, serviceability, reliability, and never before seen usability.



## Smart•Circ™ Intelligent Recirculation™

- “Learns” users’ hot water patterns to schedule recirculation



## Smart Design

- Clean internal layout
- Safety handle and seating bracket
- LED screen
- New sliding wall bracket



## Smart Technology

- Built-in recirculation control
- Recirculation-ready models
- Tested and approved for use with cleaner-burning hydrogen-enriched natural gas
- Multimedia technical support



**Proudly assembled in our new  
manufacturing facility in Griffin, GA.**



**NEW**

## **RE•Series™**

The RE•Series™ with Smart-Circ™ Intelligent Recirculation™ “learns” hot water usage patterns and schedules recirculation accordingly. This means your customers will always have unlimited hot water when they need it. It’s one more way we’re Creating a healthier way of living®.

**Learn more at [rinnai.us/re-series](https://rinnai.us/re-series)**

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