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## Rasmussen Mech. Keeps the Beer Cold in Sturgis

■ SPECIAL TO CONTRACTOR

STURGIS, SD — The Oasis Bar & Fireside Lounge has a prime location in downtown Sturgis (home to the famous motorcycle rally). The locally-owned venue offers a full bar, live music, karaoke, foosball and food.

Last Fall the Oasis Bar reached out to Rasmussen Mechanical Services with a problem. For every 18 oz. **➤ Turn to Sturgis, page 16**



A typical scene in downtown Sturgis, SD, during the first week of August.

## Construction Input Prices Are Up 21% Y-O-Y

■ SPECIAL TO CONTRACTOR

WASHINGTON, DC — Construction input prices rose 2.3% in May compared to the previous month, according to an Associated Builders and Contractors analysis of U.S. Bureau of Labor Statistics Producer Price Index data released today. Nonresidential construction input prices also increased 2.3% for the month.

Construction input prices are up 21.4% from a year ago, while nonresidential construction **➤ Turn to Construction, page 52**



## PMI CEO Kerry Stackpole Named to Federal Advisory Committee

■ SPECIAL TO CONTRACTOR

WASHINGTON, DC — Kerry Stackpole, Plumbing Manufacturers International's CEO and executive director, has been named to the Industry Trade Advisory Committee (ITAC) 8, a federal advisory committee that covers building materials and forest products.

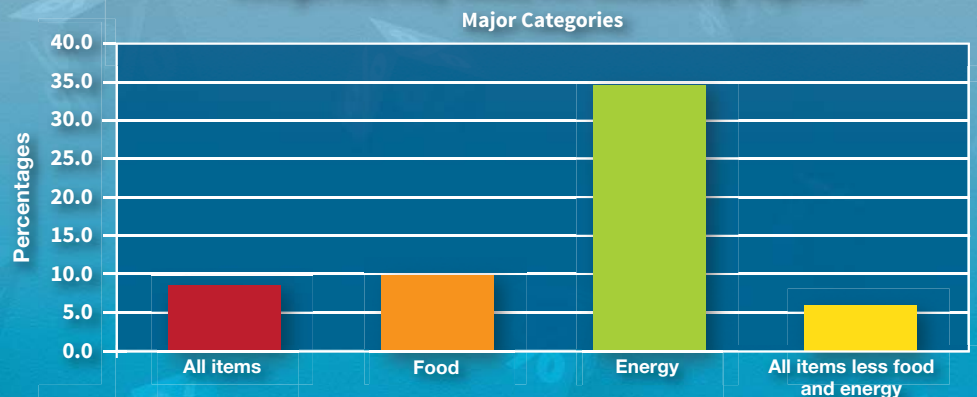
The committee is one of 15 managed by the U.S. Department of Commerce and the Office of United States Trade Representative (USTR) to help U.S. businesses **➤ Turn to PMI, page 16**



Kerry Stackpole

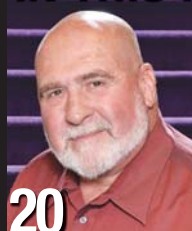
### CONTRACTOR INFOCUS

12-month percentage change, Consumer Price Index, selected categories, May 2022, not seasonally adjusted



SOURCE: U.S. Bureau of Labor Statistics

### IN THIS ISSUE



20 Schwartz on **MANAGEMENT**



36 Linhardt on **HYDRONICS**



44 Feldman on **TECHNOLOGY**

### FEATURE

24 **Made In America 2022**

### PRODUCTS

58 **Piping Packages**



6 **Fire Protection From Afar**  
NFPA Standard for remote inspection on its way.

22 **Electrification of the Built Environment**  
Is it the only way forward? And are we going too fast?

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# Students Participate in Second Annual RIDGID "We Love STEM Day"

BY STEVE SPAULDING OF CONTRACTOR'S STAFF

ELYRIA, OH — RIDGID®, a part of Emerson's professional tools portfolio, hosted its second annual "We Love STEM Day" in June for 38 students in grades three through eight. The event was designed to support local schools and engage students in science, technology, engineering and mathematics (STEM). It also helped RIDGID demonstrate the role these vital subjects play in manufacturing.

➤ Turn to Students, page 12



Students participating in RIDGID's second annual "We Love STEM Day."

# Manhattan Mechanical Launches ESOP

BY STEVE SPAULDING OF CONTRACTOR'S STAFF

MANHATTAN, IL — After 10 years of growth and success, Manhattan Mechanical Services has announced its transition to an Employee Stock Ownership Plan (ESOP), completing its first transaction by transferring 20% of the company to its employees.

"Our team's hard work and dedication made this transfer of ownership the obvious decision," explains President Joe Harkness. "Our company's success is

➤ Turn to Manhattan, page 34



Manhattan Mechanical Services, East Chicago.

# Global Geo Heat Pumps Market Expected to Reach \$19.4B by 2030

SPECIAL TO CONTRACTOR

NEW YORK, NY — (GLOBE NEWSWIRE) — According to the US Environmental Protection Agency, geothermal heat pumps are the most energy-efficient, environmentally friendly, and cost-effective space cooling systems available. Geothermal heat pumps have the potential to dramatically reduce emissions, primarily when used for

➤ Turn to Global, page 56

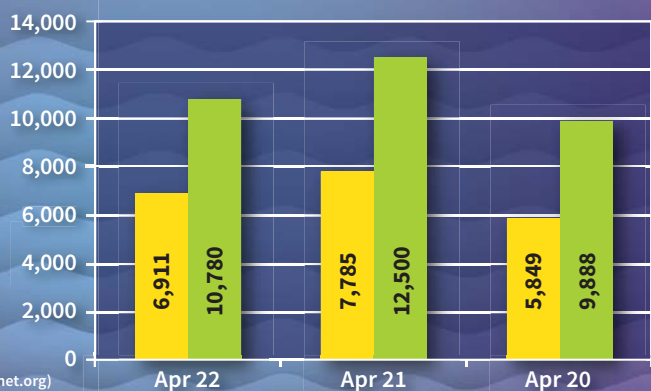


## CONTRACTOR INFOCUS

### U.S. SHIPMENTS OF COMMERCIAL STORAGE WATER HEATERS

Apr 2020 - Apr 2022

■ Commerical Electric  
■ Commerical Gas



SOURCE: AHRI (ahricommunications@ahrinet.org)

# Features & Departments

- 6 Fire Protection From Afar**  
A new NFPA standard would allow for remote inspection.
- 8 High Tech and the Water Crisis**  
Niagara's Mike Campbell on 'Building Beyond the Code.'
- 22 Forum: Is Full Electrification the Solution?**  
By John Mullen, Director of Technical Services, IAPMO.
- 24 Feature: Made in America 2022**
- 36 Hydronics & Radiant Section**  
Expansion tank mysteries, a rehab 40 years in the making and more.
- 56 Software Showcase**
- 66 Editorial**  
The Manufacturer Relationship

# Columnists

- 20 Management** by Al Schwartz  
Old school vs. New School... NOT!
- 36 Hydronics** by Pat Linhardt  
Eureka!
- 44 Technology** by Patti Feldman  
Three Software Solutions
- 46 Marketing** by Matt Michel  
Examine, Diagnose, Prescribe
- 48 Best Practices** by Heather Ripley  
A Nose for News

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In Brief

**The American Society of Safety Professionals** welcomes Doug Parker, assistant secretary of labor for occupational safety and health, to a special general session at their Safety 2022 event in Chicago. Parker will attend in person to discuss the latest activities and future plans of the Occupational Safety and Health Administration to protect workers across the country.

**Nibco** has launched a new and improved website, which includes a new design, better search functionality and easier and faster navigation, along with expanded features. The new platform integrates three Nibco family brands, **Webstone**<sup>®</sup>, **Sure Seal**<sup>®</sup> and **Chemtrol**<sup>®</sup>, for a one-stop, seamless experience.

**Danfoss** has appointed Steven Lakin as its new director of public and industry affairs. Lakin is an accomplished government relations and public affairs professional with extensive experience working across multiple industries, with industry associations and with policymakers at the state and federal level.

**Franklin Electric Co., Inc.** welcomes Kyle Carron to its Industrial & Engineered Systems business unit. In his new role as business unit sales manager, Kyle will be responsible for developing new fleet rental accounts and managing existing key customer relationships. Carron brings eight years of experience working in the pump and rental industries to the new position.

**Niles Steel Tank**, a subsidiary of **Bradford White**, has announced the launch of a new mobile-friendly website with enhanced experiences for both customers and jobseekers at <https://www.nilest.com/>. Focusing on maintaining top performance and offering depth of product information across multiple platforms, the website implements new dynamic menu systems that are intuitive to use.

The **U.S. Green Building Council** has announced a major milestone: nearly 100 net zero certifications have been earned under the LEED Zero program, representing more than 23 million square feet of space. One-fourth of LEED Zero projects earned multiple certifications.

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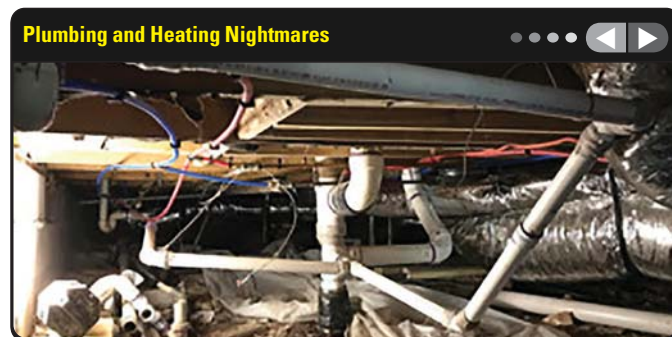
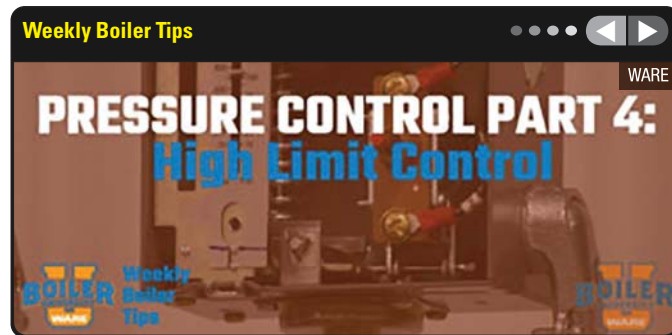
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## Top Stories

- Email Marketing Best Practices
- Redwood Services Announces Investment in Plumbing & A/C Medic
- Viega Fittings Meet Highest Seismic Standards
- Saniflo USA Donates to Virginia Technical Institute

## Videos & Media Galleries



### BOOKMARK OUR CORONAVIRUS NEWS PAGE

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).

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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.

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# Fire Protection From Afar

BY JOHN MESENBRINK OF CONTRACTOR'S STAFF

**Q**UINCY, MA —A new NFPA standard is being proposed to lighten a small piece of the in-person burden involved with building projects—inspections. If *NFPA 915 Standard on Remote Inspections* is approved, inspectors would have the ability to utilize audio and visual devices or other technologies to perform an inspection for the purpose of remote verification. *CONTRACTOR Magazine* recently spoke with Terry Victor, Senior Manager of Industry Relations, Fire Protection, Johnson Controls, and Kevin Carr, Senior Fire Protection Specialist, NFPA, about remote inspections as it relates to the new standard.



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## A new standard—NFPA 915 Proposed Standard for Remote Inspections—looms.



Terry Victor, Senior Manager of Industry Relations, Fire Protection, Johnson Controls.



Kevin Carr, Senior Fire Protection Specialist, NFPA.

**CONTRACTOR:** Did the COVID pandemic initiate the remote inspection (RI) process or did it speed up the process?

**Victor:** The remote inspection (RI) concept and the development of the initial draft of the NFPA standard preceded the pandemic. Due to reduced staffing and other factors, some building and fire inspection departments

had already found a way to use digital technologies to perform RI and become more efficient in the process. However, the pandemic brought to light the need to use RI in situations and conditions previously not considered. That generated a lot of interest in the draft standard along with the other RI material provided on the NFPA website.

**Carr:** In review, it seems clear that RI had been occurring in some jurisdictions within the United States for many years prior to 2020. Several communities had posted their RI procedures online that detail what types of inspections would be included, the process to conduct the RI, along with the applicable technology requirements. After March 2020, I understand that many jurisdictions considered and adopted RI requirements, either on a temporary or permanent basis. The global pandemic created a unique opportunity to accelerate the interest and use of RI, as RI may have been the safest way (due to health concerns) for inspections to occur.

**CONTRACTOR:** Let's talk contractor/inspector "mistrust" at times. Do you think RI would

only add to that? How does that get addressed?

**Victor:** There can be mistrust when contractors try to "pull one over" on the inspector, or when an inspector asks for something above and beyond the codes and standards. Part of the process for performing a RI in accordance with NFPA 915 is for all affected parties to have a clear understanding ahead of time of the needs and expectations for each of them. If everyone is on the same page up front, any mistrust should be minimized. The NFPA draft standard requires date and time stamping, and location verification, which are meant to keep everyone honest about when and where the RI is being performed.

**Carr:** While I cannot speak to that directly, feedback I have received is that the RI process has been helpful in ensuring both the authority having jurisdiction (AHJ) and the contractor are on the same page. I would argue that being able to verify specific information ahead of time, as well as understanding the requirements regarding RI, would help both parties to have more successful outcomes.

**CONTRACTOR:** Will there be debate on how thorough the inspections will be?

**Victor:** One key premise for the use of RI as described in the purpose statement in NFPA 915 is to "... deliver an equivalent or improved result as that which would be obtained with other inspection methods." As long as all interested parties understand the expectations up front, the inspection will be thorough. If an app like FaceTime is used to livestream the RI, it can be just as thorough as the inspector being on-site. If the inspection is recorded and submitted as a video, the AHJ should make it clear to the party recording the inspection the level of thoroughness required to accept the RI.

**Carr:** Hopefully, the policies and procedures for the RI process will help to answer any questions ahead of time. Certainly, some inspections may be more detailed than others. Given this, both the AHJ and contractor should consider whether an RI is the best avenue to pursue. If it is pursued, I would argue that a key component to the RI process is that the RI should be comparable to, or exceed, what an in-person inspection can provide. All inspections need adequate time to review the work for approval.

**CONTRACTOR:** Will RI allow for more thorough inspections due to a larger time window or would the time allotment be similar to a live inspection?

**Victor:** From the perspective of the inspector, RI will save time by eliminating the need to travel to the jobsite. But the on-site RI itself could take more time for the parties transmitting or recording the inspection in order to be as thorough as needed to ensure the work was done correctly.

**Carr:** There are some major advantages to RI. I would argue that chief among them is the scheduling component. Rather than an AHJ being unable to pinpoint a time to be on a specific site, and the contractor possibly having to wait for long periods of time for the AHJ to arrive, the RI process allows them to meet remotely at a prescribed

➤ Turn to Fire, page 52

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# How High-Performance Technology Can Help Alleviate the Water Crisis

BY MIKE CAMPBELL, BUSINESS DEVELOPMENT MANAGER AT NIAGARA

In the last decade, countless reports and articles have covered the impending water crisis. These documents warn that the water crisis will be a major problem soon, but “soon” always seems like a far way off.

Sadly, the crisis has arrived and we’re already feeling the effects of droughts and water shortages. The Natural Resources Defense Council suggests that 70% of all U.S. counties may face more serious water shortages in the next 30 years, and at least 40 state water managers noted that they expect some water shortages in the next decade.

We simply cannot ignore the continuing depletion of the Earth’s most precious resource. We in the plumbing and construction industry have a duty to clients and future generations to conserve water.

Only 3% of the world’s water is fresh water; of that, 30.1% is groundwater and 68.7% is locked up in melting icecaps and glaciers. When glaciers melt into the ocean, they become saline and the freshwater is lost. Much of the freshwater that is left is unusable in some manner, so only 1% of all the world’s water is fit for human consumption without treatment.

Unfortunately, some of this freshwater is used for toilet flushing. We use water in ways we don’t even think about or consider every day. It’s past time that we bring water and water usage in the built environment to the top of mind in our daily lives and activities.

Some facilities, such as the Irving Texas Convention Center at Las Colinas ([www.irvingconventioncenter.com/about/lead-certification](http://www.irvingconventioncenter.com/about/lead-certification)), use water from nearby lakes through a water treatment system, but not all buildings can use a similar design either because of their location or their original design. Most of the time, inefficient, low-flow products with traditional technologies are often overlooked due to the stigma of poor performance and low quality of user experience.

Originally debuting in the 1990s, low-flow toilets were notorious for



requiring multiple flushes to clear the bowl of waste, clogging and general low-performance issues. Thankfully, we’ve had more than 30 years to be innovative, and the high-efficiency, low-flow products on the market today—using half as much water—have been redesigned with high-performance technology and can match or outperform their counterparts.

It’s not about *how much water* is used, it’s *how the water* is used, and the innovative efficiencies that evolved through testing and design.

## ‘Building Beyond Code’

In addition to worrying about conserving water, professionals in the plumbing space must be concerned about staying up to code. This is why

Niagara Conservation Corp. developed its newest continuing education course, “The Benefits of Implementing Water Conservation Standards by Building Beyond Code” (<https://bit.ly/39TJeAC>). It can be taken online through *AECDaily.com* or in person with one of Niagara’s instructors.

This informative CE course helps professionals become experts in current global water usage and standards, water efficiency requirements in building codes and standards, voluntary green building rating systems, how to upgrade specifications for efficiency, and how to specify products beyond code regulations.

Niagara’s goal in creating this course is to aid professionals in pointing to real-world proof—through various case

studies provided during the session—when speaking to clients or peers who need more education around choosing sustainable products.

This course teaches how to significantly reduce water consumption and costs by using ultra-high-efficiency toilets, capitalize on green building benefits by lowering water consumption, and inform developers on financial incentives related to water conservation for affordable housing programs. It also reviews how to optimize the benefits available from exceeding current code and standard water consumption requirements.

Those who complete the course will be able to choose water-efficient products with confidence and impress clients with their suggestions.

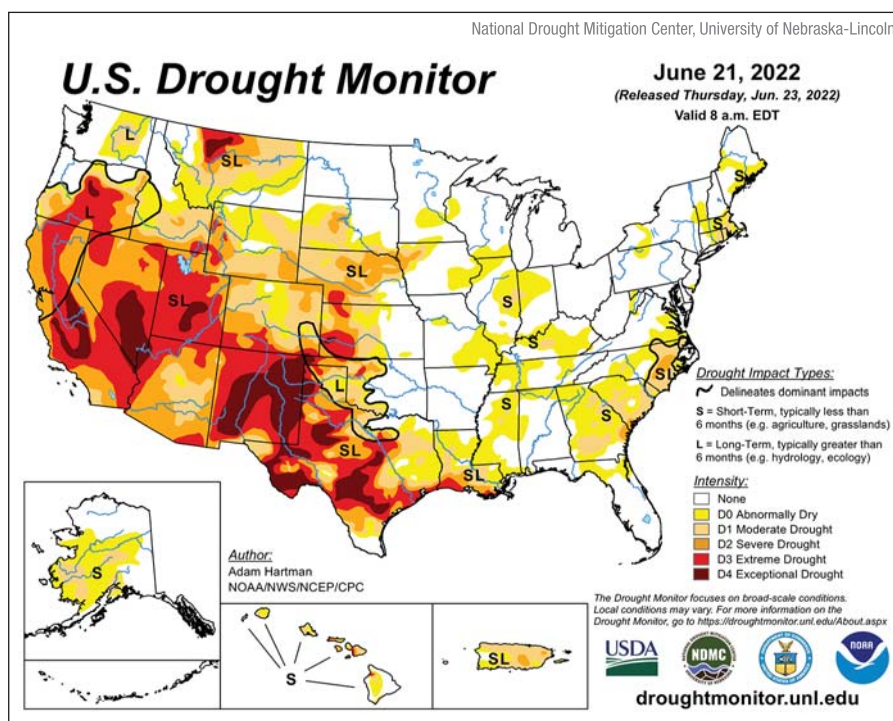
## Financial Benefits

The need for such a course is imperative due to the new infrastructure legislation, which funded green building programs, and for those who work directly with homeowners as rebate programs can help reduce the price on their sustainable choices. Pricing can be one of the primary reasons a homeowner or developer may choose to go with a more traditional product that, in many cases, can be an inefficient option using much more water.

However, it’s important to take all the financial benefits that come from using water-conserving products into account—such as lower water bills, utility rebate programs and LEED points. The cost of ownership and installation of ultra-high-efficient toilets has been proven to be significantly impactful when considering the return on the initial investment and the financial savings from the resulting water and sewage savings.

Bluefield Research’s 2021 U.S. Municipal Water & Wastewater Utility Rate Index indicated that a typical household’s combined water and wastewater bill has increased by 43.2% since 2012 (<https://bit.ly/3QRFuQD>). Water and sewer rates alone can be a significant part of a property’s utility bills, and there

► Turn to How, page 35



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# Water Crisis Costs US Economy \$8.5 Billion per Year

WASHINGTON, DC — More than 1.57 million Americans live without a toilet or tap at home, costing the U.S. economy \$8.58 billion every year, according to a report produced by DigDeep with contributions from partners including the International Association of Plumbing and Mechanical Officials (IAPMO®).

Titled “Draining: The Economic Impact of America’s Hidden Water Crisis,” the report provides an in-depth analysis of the costs and benefits of extending water and sanitation access to every home in the United States. The \$8.58 billion annual figure averages out to \$15,800 per household in health care, time spent collecting and paying for bottled water, loss of time at



work and school, and premature death. The full report is available online at [digdeep.org/draining](http://digdeep.org/draining).

Produced by DigDeep, a nonprofit organization working to improve access to clean running water in U.S. communities, the report includes contributions from partners including Altarum, the American Heart Association, Robert Wood Johnson Foundation, and IAPMO. It builds on

and reinforces key recommendations from DigDeep’s earlier report on the topic: “Closing the Water Access Gap in the United States: A National Action Plan.” By the Numbers

The report attributes the following statistics to the water access gap:

- 15,800 — the annual cost, per household, to the U.S. economy for each household without access to running water or basic plumbing. It includes health care costs, time spent collecting and paying for bottled water, loss of time at work or school, and premature death.
- 219,000 — the annual number of waterborne illness
- 71,000 — the annual number of cases of mental illness
- 68.7 million — the annual number of work hours lost
- \$1 billion — the annual loss in U.S. Gross Domestic Product (GDP)
- 610 — annual premature deaths
- \$8.58 billion — total annual cost to the U.S. economy

“While speaking to communities for our 2019 report, we heard devastating stories about impacts to people’s health, employment, leisure time, and general well-being,” DigDeep Founder and CEO George McGraw said. “Now we are finally able to measure the true magnitude of those impacts in real dollars. We must close the water access gap. As this report shows, we can’t afford not to.”

While the water access gap is wide and deep, it is solvable—to the benefit of numerous parties even beyond the individuals and families suffering from a lack of access to water and sanitation. With the passage of the bipartisan Infrastructure Investment and Jobs Acts of 2021, \$55 billion in water-specific infrastructure funding is available to be spent over the next five years.

Since much of that investment will be used to upgrade and repair existing systems, DigDeep notes that targeted investments are needed for new access and to close the water gap for good.

## Plan of Action

The report’s authors suggest the following action steps to solve the problem:

• **Expand and refocus federal and state funding.** Closing the water access gap requires more funding, more flexibility in funding, and funding for interim solutions and new technologies. These efforts should build on the \$55 billion in water-specific funding authorized in the Infrastructure Investment and Jobs Acts of 2021.

• **Use data to bring visibility to communities.** Currently, no central entity collects data on the scope of the U.S. water access gap. Federal data collection must be accompanied by outreach to vulnerable communities to assist them in using data for advocacy and designing solutions.

• **Define the water access gap as a crisis.** Many countries, and the United Nations, have recognized the urgency of water access by passing resolutions recognizing the human right to water and sanitation. The U.S. federal government should signal its leadership on this issue by doing the same.

• **Build a domestic Water, Sanitation, and Hygiene (WaSH) sector.** Closing the water access gap will only be possible if led by a dedicated “community of practice” made up of NGOs, funders, research institutions, government agencies, and impacted communities working together toward a shared goal.

“As a technical adviser for this report, IAPMO was pleased to work with the broad coalition of organizations that contributed to this research, and we wholeheartedly endorse these recommendations,” IAPMO Executive Vice President of Government Relations Dain Hansen said. “Access to clean water and safe sanitation is a basic right, and closing the water access gap means advancing equity and righting historical wrongs. IAPMO is proud to be a strong advocate for every community to be able to access the financial and technical resources required to close this water and sanitation access gap.”

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# Students Participate in Second Annual RIDGID “We Love STEM Day”

► **Continued from page 3**

“It was wonderful to see the energy and excitement the students had for learning—and to hear their questions about manufacturing and the way STEM is used in the work we do,” said Rose Hitchens, event chair, “We Love STEM Day” and chapter lead, RIDGID Women’s Impact Network for Emerson. “Engaging students at an early age in STEM education helps to encourage a love of learning in these subjects. It also helps foster the next generation of creators, innovators and inventors.”

Students participated in a variety of hands-on activities that strengthened their problem-solving skills, including building a flashlight and testing different methods of creating a strong and lightweight pasta tower.


RIDGID is a proud supporter of



A student team working to build a flashlight during “We Love STEM Day.”

local programs and education-based initiatives throughout Lorain County, including Elyria school makerspaces that reinforce STEM learning. The company also partners with current and future trade professionals and regularly invests and donates products. For years, its leaders have served on industry boards to help strengthen the trades.

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# IAPMO R&T Registration Services Rebrands as SCB

ONTARIO, CA — IAPMO R&T Registration Services, the ANSI National Accreditation Board (ANAB)-accredited organization focused on management system certifications and part of The IAPMO Group, has changed its name to SCB (Systems Certification Body).

“This transition to SCB represents a turning point for our organization,” SCB Senior Vice President Shirley Dewi said. “We will never lose our proud legacy of IAPMO and the nearly 100 years of business excellence. Strategically, this change allows us to better service our customers as we move into new and emerging markets.”

The rebrand signifies the next phase of the organization’s growth as a third-party management system certifica-



tion body and ties together the Supply Chain Services group that previously functioned as its own entity.

“Combining our Management System Certification and Supply Chain Services divisions under the SCB

The rebrand as Systems Certification Body signifies the next phase of the organization’s growth.

umbrella allows our customers to use one provider for their internal and external supplier quality requirements,”

Dewi said. “This change really captures the global breadth of our network and gives our customers one point of contact for all services.”

SCB is committed to meeting clients’ needs and helping them stay out in front of a complex and always-changing environment. Its customer base serves industries such as aerospace and defense, information technology, medical, automotive, engineering and manufacturing, and service providers/government contractors.

As part of its new branding, SCB has launched an updated website ([www.iapmoscb.org](http://www.iapmoscb.org)) featuring an improved user experience with tools and information that will assist in matching its offerings with clients’ needs. **C**

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# Rasmussen Mech. Keeps the Beer Cold in Sturgis

► **Continued from page 1**

of beer that came out of the tap they would have to let 6 oz. (or 1/3 of their product) go down the drain.

The beer that sat in the lines between the cold keg and the tap was

was able to reduce this waste by 32%!

Since 1970, Rasmussen Mechanical Services has a rich history of providing services and parts to commercial, industrial, and institutional clients throughout the central US. Today

“We came to the [Oasis] project because we know the owner from working on different projects of his,” Jason Carlson explains. “He has always offered everyone working on his projects a free beer at the end of the work day

system, new beer trunk lines, and a new tap wall.

“We started by running pex piping next to the beer lines,” Carlson says.

“A small chiller, pump and thermostat were installed to pump chilled glycol

and water through the pex lines which was set to 33 degrees.

We then added insulation around both lines.

We were able to run these lines all the way up to the back end of the tap

so the entire beer line stayed chilled.”

Rasmussen installed a CWA-3 chiller from BVL Controls.

The challenge was the small space

they had available. “The Ridgid Pro-Press tool was critical to getting this

job done because of the tight corners we had to make with the chilled water

lines in the tap tower,” Carlson says.

Previously the Oasis had a simple four keg kegerator in the back storage room

with about 10’ of exposed lines to the tap wall. These lines were insulated, but

did not help keep the beer cold.

“Their walk in cooler was only about 15’ from where she wanted to add this

tap line, so I suggested we put the kegs in the walk in cooler instead of the old

kegerator, add the chiller where the old kegerator sat, and the new lines from

the walk in cooler to the tap wall,” Carlson says. “I think the real trick

here was that one of our techs took the actual beer tower apart and ran the

chilled water lines all the way to the outlet of the beer taps. This ensures

that nearly every drop of beer coming out of the tap is at 33 degrees.”

As a result, the bar’s waste has gone from 6 oz. of every 18 oz. wasted to

about .25 oz. per 18 oz. wasted—a change from about 33% waste to almost

1% waste. The entire system, with the chiller, pump and thermostat should

have a payback period of less than one year for the bar. Of course, the real test of the system will be August, when the big rally returns and the streets of Sturgis will be crowded with thirsty bikers. ☐



Glycol piping and tap lines at the Oasis Bar in Sturgis.



The chiller pump and thermostat.



The new keg setup.

coming out warm and foamy and was eventually dumped down the drain until the cold beer was reached. Jason Carlson of Rasmussen Mechanical Services designed a solution that

the company offers a wide variety of services to its customers, including burner services, boiler repair, mechanical construction, HVAC service and more.

while working for him. Naturally, this is not an offer any of us refuse while working for the owner!

“While enjoying a free beer one day I watched the bartender pour quite of bit of beer from the tap down the drain.

I asked if this was normal, she stated that it is because the beer comes out of the tap warm and foamy for quite a

while. Being the beer lover that I am I just couldn’t let this stand... I had the luxury of poking around and found

that their beer cooling system was antiquated and did not work very well.”

Carlson and the owner went back and forth on a few different designs to help alleviate the problem and

settled on what was essentially a radiant cooling system, adding a small chiller

with rigorous trade-law enforcement. The committee provides detailed policy and technical advice, information and recommendations to the U.S.

Secretary of Commerce and the USTR on trade barriers, negotiation of trade agreements, and implementation of existing trade agreements affecting building materials and forest products, according to the ITAC website. ☐

## Stackpole Named to Federal Advisory Committee

► **Continued from page 1**

compete nationally and internationally. His appointment to the committee will help amplify the collective voice of plumbing manufacturers on important international trade issues, such as Section 301 tariffs and counterfeit plumbing product sales.

“This gives us a seat at the international trade table and the ability to interact with policy and decision makers to provide direct input on the impact



of trade agreements for our industry,” Stackpole said.

ITAC 8 is part of the International Trade Administration, which promotes trade and investment in U.S. businesses and ensures fair trade

with rigorous trade-law enforcement. The committee provides detailed policy and technical advice, information and recommendations to the U.S.

Secretary of Commerce and the USTR on trade barriers, negotiation of trade agreements, and implementation of existing trade agreements affecting building materials and forest products, according to the ITAC website. ☐

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# Air Pros USA Acquires Dallas Plumbing Company

DALLAS, TX — Fort Lauderdale-based Air Pros USA announced the acquisition of Dallas Plumbing Company, a leading family owned and operated HVAC and plumbing business that has been proudly serving home and business owners in the Dallas/Fort Worth area since 1903. Dallas Plumbing Company will continue to provide the same excellent customer service with the technicians, installers and staff the community has come to know.

Led by four family generations, Dallas Plumbing Company specializes in plumbing, air conditioning, and

heating solutions. Under the new partnership, the company's high standards and dedication to customer service will continue in over 150 zip codes in the Dallas, Collin and Tarrant County regions with 100 trucks and employees.

## Honoring the Legacy

"It is not a small achievement to last over 100 years in the industry. Dallas Plumbing Company has kept a strong, loyal fan base in the area because they have never compromised quality for their customers and we are thrilled to



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Since 1903, Dallas Plumbing Co. has been serving the Dallas/Fort Worth community.

**In business since 1903, Dallas Plumbing Company specializes in plumbing, air conditioning, and heating solutions.**

make them a partner," said Anthony Perera, Founder and Chief Growth Officer of Air Pros USA. "With our philosophy to always put customers first, Air Pros USA will continue to honor the legacy and commitment to customers that the Dallas Plumbing Company has created."

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

"Dallas Plumbing Company helped build Dallas up and never stopped growing together with the city," said John Downs, president of Dallas

Plumbing Company. "Air Pros USA presents the next opportunity for our company to elevate its resources and remain the premier choice for home service needs in Texas."

This is Air Pros USA's second acquisition in Texas, previously acquiring Dallas-based Blue Star Heating and Air in 2019. Through the Dallas Plumbing Company acquisition, Air Pros USA expands its national growth with over 550 vehicles, 600 technicians and staff, and a customer base of over half a million. Air Pros USA operates in eight states and more than a dozen metro areas including Miami, Orlando, Dallas, Atlanta, Colorado Springs, Mobile and Spokane.

For more information, visit [AirProsUSA.com](http://AirProsUSA.com) and [DallasPlumbing.com](http://DallasPlumbing.com).

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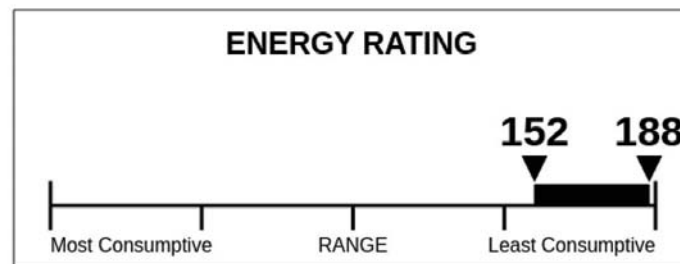
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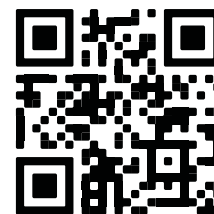


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by Al Schwartz  
PLUMBING CONTRACTOR



# Old school vs. New School... NOT!

The construction trades are a world unto themselves. The community of the skilled trades is as different from most other jobs as hot is from cold. Can we expect a person who spends their days working in an office environment pecking at a keyboard, moving electrons on a screen and crunching data to understand, let alone relate, to someone who spends that same amount of time putting something together physically? Can the office person understand the physical effort required to actually build something? Can a trade worker understand or relate to the digital office world of today?

These are all good questions. The answer is... maybe, maybe not. In this writer's opinion, that is the conundrum our country finds itself in. The basic disconnect between folks who have been brought up to believe that physical labor is somehow less worthwhile than tapping a keyboard.

## The Old Ways

In chatting with some young(er) guys who are in the plumbing/HVAC business it is clear that we have evolved ourselves right out of the very thing that makes our industry so unique, with new people earnestly wanting to come into the trades. We all know by now that the biggest single complaint today is manpower, or lack thereof. Next in line is trying to train new people—if you are fortunate enough to actually find a viable candidate. While I cannot say that every conversation I have had with businessmen in our industry revolved around the quality of new hires, it was a topic included in the majority of them.

The topic seems to revolve around trying to train an apprentice who is so thin skinned and easily offended that merely correcting a deficient skill can be cause for them to quit. Their feelings get hurt at the drop of a hat. Add to that the inflated sense of their own worth ("I've been here a whole month, I deserve more money") and you have one of the biggest issues facing the industry's manpower crunch. Not the only issue, but a big one.



**We all know by now that the biggest single complaint today is manpower, or lack thereof. Next in line is trying to train new people.**

In years past, probably for as far back as any of us can remember, apprenticing in the trades was not only something to strive for, it was considered a coup of sorts to become apprenticed in a trade. I cannot speak to HVAC, so I won't, but I can speak to the plumbing/pipefitting trades. Worrying about hurting someone's feeling because of getting yelled at when teaching the trade was never on anyone's radar... ever!

It's not a stretch to say that there was zero consideration given about an apprentice's sense of self worth when teaching the trades. They either learned the skills or went down the road, as simple as that. I am not advocating we go back to the "three strikes" rule of apprenticeship that existed when I was an apprentice (the journeyman "showed you" the first time, "told

you" the second time and "whacked you across the back of your head" if you screwed it up a third time), but I can say that system certainly motivated apprentices.

## The New Ways

Today, it is more likely that a journeyman who dared lay hands on an apprentice, even by doing something as innocuous as shoving the apprentice out of the way to correct an error, would likely be subject to the apprentice quitting, or to be charged with assault and the apprentice quitting.

That begs the question, how do you teach a skilled trade to someone who is so sensitive and thin-skinned that the slightest criticism sends them into paroxysms of fear and rejection? This is a serious question and deserves a serious answer. I just don't have one.

## Filling a Void

Nature, as well all know, abhors a vacuum. Even as we struggle with getting new people to enter the trades and investing themselves in learning it, solutions are presenting themselves, or are being found by those who are not ready to see their businesses implode, dry up and disappear.

What do you do when you need more people but can't fill the bill with local prospects? You look elsewhere. While immigration from European countries is strictly limited these days, a labor force from south of the border does not seem to be so restricted. Here, in the southwest, there is a labor pool of immigrants who are young, energetic and eager for work... any work. They work as many hours as they can, giving their full effort. They show up on time, and work until the job is done.

I'm simply stating the empirically observable facts, not advocating anything. If we can't fill the trade ranks with viable apprentices because of a societal shift, then we need to fill those ranks from wherever we can find those people. If it takes congressional action to legalize these folks, then it will take congressional action. We have done so before in our history. If our businesses are to thrive and survive moving forward something needs to happen.

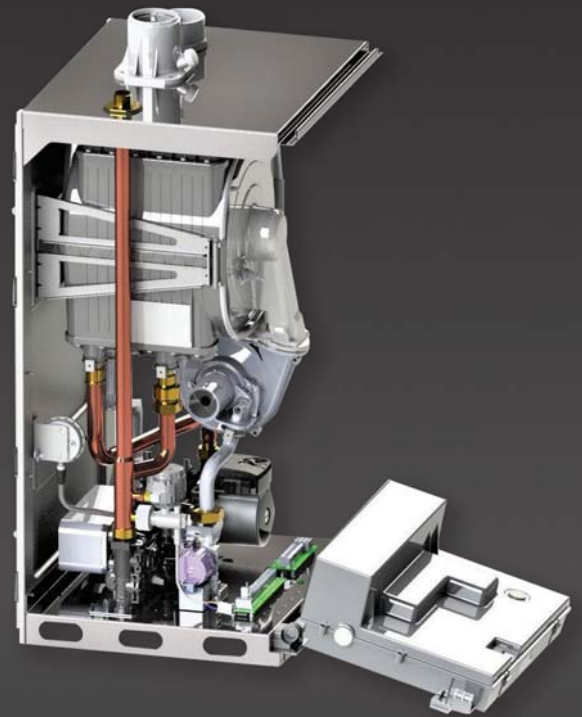
I recognize that these opinions are not universally popular. They are this author's opinions and not those of CONTRACTOR Magazine. A truth is a truth, whether or not you agree with it. The trades are suffering. Whether that turns into a death knell depends upon how committed we all are to keeping it alive. **G**

*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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# Is Full Electrification of the Built Environment the Only Solution?

BY JOHN MULLEN, DIRECTOR OF TECHNICAL SERVICES, IAPMO

“Every built environment can go electric all at once and there will be no more carbon emissions” is a claim we have all heard quite a bit lately. While true that switching from fossil fuels to electricity as a source of energy will greatly reduce pollution, doing so safely would require a tremendous amount of research and effort, along with industry guidance.

Here in the United States, we have taken huge leaps to accelerate our green energy generation and no one wants to throw unnecessary speed bumps in front of that effort. Resiliency and sustainability are not just buzz words you hear paired with terms like decarbonization; these are prerequisites for generating meaningful change for our future generations and making certain our buildings are ready for whatever gets thrown their way.

## America’s Grid is Feeling the Stress

Continuing blackouts and brownouts in densely populated urban and suburban areas prove our existing grid is not ready for this all-at-once approach. The literal flicking of a switch from fossil fuels to electric in the built environment could backfire due to increased electric loads, exacerbating an already devastating and life-threatening problem brought to you by our nation’s stressed-out grid system.

Electrical grid systems owned and operated by utility companies still mostly produce electricity from fossil fuels in the US. The use of petroleum, natural gas and coal accounted for about 79% of total energy production in America during 2020, according to the federal government. Major improvements have been measured over



## International Association of Plumbing and Mechanical Officials

the past few decades as it relates to greenhouse gases and carbon emission, with the domestic production and use of clean natural gas in lieu of petroleum and coal.

Over the past few years, energy production in America has begun to look only slightly more balanced in its approach, with roughly one-third being sourced

## Flicking a switch from fossil fuels to electric in the built environment could backfire.

from natural gas, one-third from petroleum and the last third being an accumulation of nuclear, coal and renewables. The eventual replacement of petroleum with more renewable options like nuclear or green hydrogen will change these charted figures for the better. Inevitably, the supplementation of H2 in certain applications will lead to the reduction of natural gas harvesting. By creating blends of green hydrogen and natural gas that are ready to be used today with our current infrastructure, we can recalibrate our efforts and prepare for an even more sustainable future.

Buildings, both commercial and residential, have been changing rapidly as it relates to the use and generation of power. Specifically, with building energy independence, grid systems will experience smaller load demand, allowing utility companies to pivot and consider more sustainable modalities to power generation at more complex and critical spaces. If we see more energy independence from renewables in the commercial and residential spaces, our entire energy system in America will look and function differently. There is the

likelihood for a very disruptive role reversal, shifting traditional energy consumers into energy producers.

## Buildings Need Redundancy for Resiliency

Commercial and industrial buildings tend to use a tremendous amount of energy for operation and emit higher levels of CO2 than that of their residential counterparts. With innovative approaches to energy creation, in addition to capture and reuse methodologies, these large-format buildings could eventually create their own energy for use, compression and storage.

It is more than likely that in the future, these energy-independent buildings could form modern-day microgrids. These microgrids could exist throughout different regions, feeding back electricity to nearby cities and lessening the utility companies’ need for fossil fuel production, in turn lowering emissions caused by the producer.

While the use and production of fossil fuels generally is something we all agree to transition from as a nation, we must consider other sources of energy for resiliency and redundancy. When we remove alternative fuel sources from the conversation in the name of reducing carbon emissions, we fail to provide system redundancy in the face of catastrophic events. It is a “throwing the baby out with the bathwater” scenario.

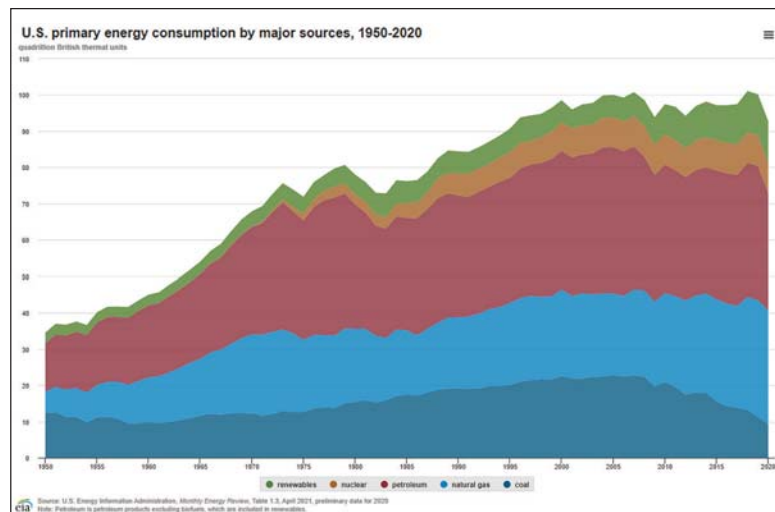
In the interim, blended fuel sources like H2 are a seemingly viable option for the transition in these types of buildings. In many cases, concentrated levels of hydrogen and natural gas allow existing fuel gas piping to be utilized. On-site production of green hydrogen gas for operating high-energy production equipment in commercial and industrial settings could sharply offset the amount of fossil fuels being utilized for plant operations. This site-driven energy independence would be a huge step away from fossil fuel reliance and would ease the grid stress these building types would typically inflict.

When on-site storage and compression technology is combined with on-site production, we may see an apex in our transition. Energy storage remains an issue in most applications, and for now we will continue to rely on internal combustion engines (ICE) operated by fuel gas in our most critical environments when the lights go out.

## Residential Makes it Look Easy

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➤ **Turn to Electrification, page 55**



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# Made in America 2022

By Steve Spaulding of CONTRACTOR's staff

**A**merican manufacturers are having a pretty good year. Perhaps it won't be quite as good as 2021, when factories were ramping back up to meet post-pandemic demand but, according to the US Census Bureau, shipments of manufactured durable goods were, as of April 2022, up eleven of the previous twelve months, while inventories of manufactured durable goods were up fifteen consecutive months. Manufacturing Production in the United States increased 4.80% in May of 2022 over the same month in 2021.

But what makes that success remarkable is that it has been accomplished while facing unprecedented labor and supply chain problems. The skills gap for manufacturers is every bit as dire as it is for contractors, with a recent survey by Deloitte and the Manufacturing Institute finding that about 570,000 manufacturing jobs still remain unfilled.

The supply chain situation, while apparently no longer in crisis mode, is still facing pressure from the pandemic "hangover" as well as geopolitical instability (Russia's war in the Ukraine, aggressive trade policies from China) and the soaring price of fuel.

So how have American manufacturers found a path to success? More and more they are turning to technology. Automated systems, robotics, smart factories, AI-powered logistics systems and more are all helping keep the supply chain moving while doing more work with fewer workers. The wave of innovation that seems to follow every crisis in American history is already changing the face of American manufacturing.

Read on to see how some of the manufacturers responsible for your favorite brands are meeting the challenge of the present moment, and sharing that success with their employees, customers and communities.

## ★ AB&I Foundry

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[www.Anaco-Husky.com](http://www.Anaco-Husky.com)



## ★ A. O. Smith

A. O. Smith's Cyclone Mxi is designed, engineered and assembled in MCBee, SC. The Mxi design is the latest advancement for the industry leading Cyclone family of condensing gas water heaters. The Cyclone Mxi models are all Energy Star qualified products, delivering efficiencies of up to 98 percent. Additionally, the Cyclone Mxi's exclusive advanced electronic control with built-in diagnostics, is iCOMM compatible and network ready for remote monitoring. Other features of the Mxi model include maneuverability and ease of installation due to its lightweight design, a helical coil heat exchanger that maximizes heat transfer for optimal service life and the PermaGlas glass-lining process that provides superior tank protection against corrosion.

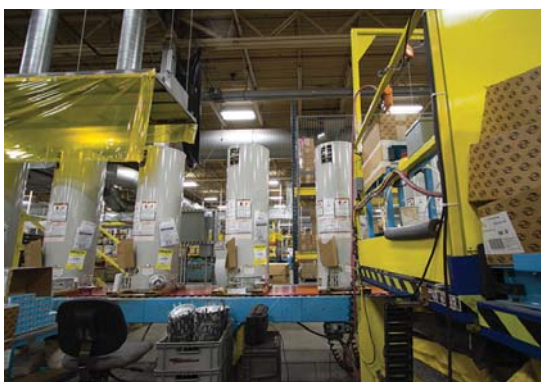
[www.aosmith.com](http://www.aosmith.com)



## ★ Bradford White Water Heaters

From its start more 135 years ago Bradford White's goal has been to deliver high-quality, superior products made by American craftspeople. The company remains committed to that goal in 2020 and proudly employs over 1,800 people at their American facilities to manufacture Built to be the Best™ commercial and residential water heaters that lead the industry in performance, reliability, efficiency, safety and innovation.

[www.bradfordwhite.com](http://www.bradfordwhite.com)



## ★ Brass Craft

Since its founding in 1946, Brasscraft Manufacturing Co. has been proud to be a high quality and innovative American manufacturer where products are engineered in the USA and assembled by skilled professionals that provides the quality assurance the professional plumber looks for. Look for the DMA flag logo (Designed, Machined and Assembled in the USA) on BrassCraft brand water connectors, water stops, gas connector and appliance connectors - they are designed in the USA, machined at one of our plants – Lancaster, Texas; Corona, California or Thomasville, North Carolina, and assembled by our American work force. When you buy product manufactured in America, you help to keep American businesses strong and support domestic job growth at the same time. BrassCraft, This is Our Craft. [www.brasscraft.com](http://www.brasscraft.com)



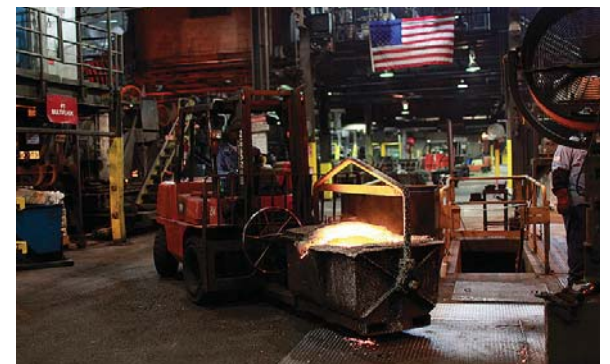
## ★ Channellock, Inc.

Channellock, Inc., is investing in a 35,000 square foot expansion of its finished goods warehouse and distribution facilities. The project will bring the company's total presence in Meadville to more than 260,000 square feet of production and distribution space. With more than 370 full-time associates, Channellock, Inc., is among the largest employers in Crawford County, PA. [www.channellock.com](http://www.channellock.com)



## ★ Charlotte Pipe and Foundry

Charlotte Pipe and Foundry Company is the nation's top manufacturer of cast iron and plastic pipe and fittings. As a leader in innovation and quality, they offer the industry's broadest range of standard and specialty DWV products. They are the only manufacturer that offers a system of ABS, PVC, CPVC, cast iron, FlowGuard Gold, ChemDrain, ReUze and RePVC pipe and fittings. All Charlotte Pipe products are proudly made in the USA. Charlotte Pipe is headquartered in Charlotte, NC, has seven plant locations across the United States, and employs 1,350 associates. Combining modern technology with 115 years of craftsmanship and experience, Charlotte Pipe and Foundry has a proud legacy of commitment to the industry and its customers. [www.charlottepipe.com](http://www.charlottepipe.com)



## ★ Cherne Industries

Since its inception over six decades ago, Cherne Industries, a part of the Oatey family of brands, has led the industry in manufacturing pneumatic plugs, mechanical plugs, gauges, testing equipment or other tools and accessories for



## American Made

commercial, industrial, municipal and residential plumbing systems. Cherne Industries recently completed an historic move of its headquarters and manufacturing operations to a newly constructed 130,000-square-foot facility in Shakopee, MN. The brand new facility features automated manufacturing with an R&D laboratory for product testing, customer training facilities that simulate job sites, and a machine shop with automated robots producing pneumatic and mechanical plugs. [www.oatey.com/brands/cherne](http://www.oatey.com/brands/cherne)

### ★ Chicago Faucets

Chicago Faucets has been America's leading manufacturer of commercial faucets for over 110 years. With manufacturing, research, and development facilities located solely in the United States, the company produces products that are made with an unwavering commitment to quality.

The Chicago Faucets' foundry, manufacturing, assembly, and distribution facilities are located within a 350 mile radius of their corporate office. This provides a high degree of control of product quality and an ability to deliver quickly to any location in the United States. On July 12, 1901 Chicago Faucets founder, Albert C. Brown, took his savings and opened a small shop in the near West Side of Chicago. Today his spirit lives on in the hundreds of Chicago Faucets employees who every day seek to meet customer needs with innovative, high quality products. Whatever your requirements may be, Chicago Faucets offers standard and made-to-order products that are designed to meet any commercial application. [www.chicagofaucets.com](http://www.chicagofaucets.com)



### ★ Daikin



The Daikin Texas Technology Park (DTTP) is a new state-of-the-art business campus that consolidates many of Daikin's HVAC manufacturing and logistics facilities across North America. Daikin invested over \$400 million to construct the facility on a 500 acre site just outside of Houston, TX. With over four-million operational square feet available, which is equivalent to 74 football fields with end zones, the DTTP supports the design, engineering and assembly of a wide array of energy-efficient heating and cooling products. For more information visit: [www.goodmanmfg.com](http://www.goodmanmfg.com) or [www.daikincomfort.com](http://www.daikincomfort.com)

### ★ Elkay Manufacturing

The Elkay Manufacturing Company began as a vision of Leopold Katz and his son Louis on the North side of Chicago back in 1920. Founded with the goals of manufacturing the highest quality sinks and providing the best service possible, the company began to thrive. Today, Elkay's products, designs and innovations continue to lead the industry, such as the Perfect Drain (pictured), where they eliminated the flange to create a seamless surface that's more attractive and hygienic. With more than 3,500 employees worldwide, they are proud to be America's number-one selling stainless steel sink company. Over the years the company has expanded to include the manufacture of faucets, water coolers, drinking fountains and bottle fillers. A cabinetry division achieved Elkay's goal of being a more complete supplier of kitchen and bath products for both residential and commercial installations. [www.elkay.com](http://www.elkay.com)



### ★ General Pipe Cleaners

Clogged drains demand "The toughest tools down the line." And General Pipe Cleaners—a fourth-generation, family-owned business, based proudly in the USA—has remained a leading manufacturer of high quality drain-cleaning and pipe inspection equipment for nearly 90 years! Company breakthroughs began with Flexicore cable, a radical design introduced in the 1940's. With its patented process of wrapping spring wire tightly around a wire rope core, General's innovation surpassed all competitive products – remaining the standard for drain cleaning snakes ever since. Trusted industry standards – like the long lasting Super-Vee, best selling Speedroooter 92, and unique Kinetic Water Ram drain cleaners – followed. Jet-Set water jets slash through grease, sand and ice, and the Gen-Eye video pipe inspection systems and Hot Spot digital pipe locator feature everything to trouble-shoot 1-1.2" through 10" lines – including Wi-Fi capability. Surveys confirm: multiple generations of plumbers and drain cleaning professionals call General their preferred brand [www.drainbrain.com](http://www.drainbrain.com)



### ★ Goulds Water Technology

For the 43 million Americans who rely on water wells for their drinking water, Goulds Water Technology, a Xylem brand, is committed to helping communities in need gain access to safe, clean water. At the Goulds Water Technology facility in Auburn, New York, 200 dedicated workers build nearly 2,500 residential and wastewater pumps every day with pride and a pledge to quality. Our employees and partners also make a positive impact one project at a time through Xylem Watermark, our corporate citizenship program [www.goulds.com](http://www.goulds.com)

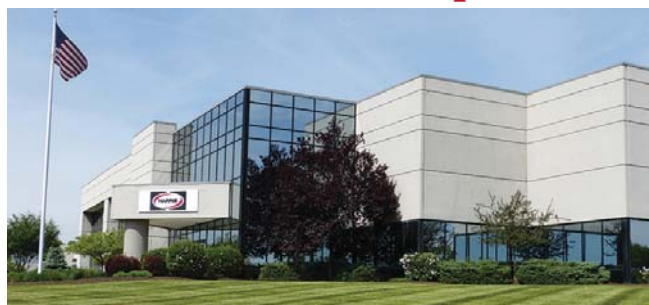


### ★ Greenlee®

For over 150 years, Greenlee® has been designing, making, assembling and packaging many products here in the U.S. The American-born and owned company is based in Rockford, Illinois where we proudly support our local manufacturing workforce as well as at our facilities in Genoa, Illinois, Louisville, Kentucky, Elyria, Ohio, and South Haven, Mississippi. Greenlee utilizes a combination of traditional hand craftsmanship and state-of-the-art equipment to produce high quality tools. Elyria, Ohio is our home for manufacturing Step Bits and Knockout punches and dies among other tools for professionals in the electrical trades. [www.Greenlee.com](http://www.Greenlee.com)



### ★ Harris Products Group



A leader in serving brazing and soldering needs for HVAC/R and plumbing professionals, the Harris Products Group has manufactured quality products for more than 110 years. A Lincoln Electric

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PIPE AND FOUNDRY COMPANY  
You can't beat the system.



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since 1901 means you can trust  
we'll be there for you when  
you need us.**



[CharlottePipe.com/CountOnIt](http://CharlottePipe.com/CountOnIt)

## American Made

company, Harris operates plants in Mason, Ohio, Gainesville, Ga. and Winston-Salem, N.C., where it produces brazing and soldering alloys (including Sterling and Bridgit) that are available in rods, solid wire and rings; air-fuel gas equipment; oxy/fuel equipment; and MAP gas. Its products are available through a network of wholesalers.

[www.harrisproductsgroup.com](http://www.harrisproductsgroup.com)

### ★ InSinkErator

Based in Racine, Wis., InSinkErator, a business unit of Emerson Electric Co., is the world's leading provider of food waste disposers.

InSinkErator also produces instant hot water dispensers and organics recycling systems, which divert food waste from landfills to anaerobic digesters for recycling into renewable energy. Racine architect John W. Hammes invented the disposer in 1927 and founded InSinkErator in 1938. Eighty years later, the company still calls the USA home, has operations in over 80 countries with 1,300 employees, and offers a high-performance line of disposers called Evolution Series®, with advanced sound, grind and anti-jam technologies. Worldwide, InSinkErator advocates for disposers as an environmentally responsible alternative to landfilling of food waste.

[www.insinkerator.com](http://www.insinkerator.com)



### ★ Kohler

Kohler enameled cast iron kitchen sinks are hand-crafted in the global plumbing company's Kohler, Wisconsin, head-quarters. Enameled cast iron is a premium material that offers exceptional durability and strength, and lasting beauty. Available in many shapes and sizes, along with various installation styles, Kohler enameled cast iron provides a functional and stylish option for any kitchen. Sterling's exclusive Vikrell material is manufactured in the plumbing brand's Alabama plant. Many Sterling Vikrell baths and showers are multi-piece units, allowing easy maneuvering around the jobsite and some models offer caulk-free installation. With many sizes and styles available, Sterling Vikrell baths and showers provide a solution for any bathroom layout and decor. [www.kohler.com](http://www.kohler.com)



### ★ Laars® Heating Systems

Laars® Heating Systems is based in Rochester, N.H., where a team of 168 dedicated American tradespeople manufacture and distribute top-rated products used in residential and commercial space heating, radiant floor heating, volume water heating and the industrial process markets. The company's innovative solutions for heating applications are powered by advanced design and technology and offer durability, performance and efficiency. For more information, visit [www.laars](http://www.laars)



### ★ Liberty Pumps

Liberty Pumps is a leading U.S. manufacturer of pumping products for ground water and wastewater removal in residential and commercial applications. With a focus on innovative product design, our wide range of pump styles includes sump pumps,



sewage pumps, effluent pumps, drain pumps, grinder pumps, complete pre-assembled sewage packages, and pump accessories. Over 90% of our high-quality, innovative, American-built products are assembled/manufactured in our modern 250,000 sq. foot manufacturing facility in Bergen, NY. Liberty prides itself in not only the performance of our products but providing a great customer experience through a customer service team that is second to none in the industry. [www.libertypumps.com](http://www.libertypumps.com)

### ★ Lochinvar

Lochinvar's heritage of excellence dates back to 1939, when Walter Vallett, Sr. founded the Walter Vallett Company. For generations, employees and customers have enjoyed growth and energy-saving innovations from Lochinvar. Today, Lochinvar continues its leadership position in the industry and is proud to offer products designed, engineered, and assembled in the USA. The company is a leading producer of energy-efficient boilers, water heaters, pool heaters, commercial package systems and other sustainable options. Lochinvar focus solely on serving their customers and offers them a product portfolio that delivers unmatched quality, performance and application flexibility. Lochinvar has a solution for every water heating need. [www.lochinvar.com](http://www.lochinvar.com)



### ★ Nexus Valve

Established in 1994 in Indianapolis, Indiana, Nexus Valve was one of the earliest innovators of specialized hydronic components and packaging. Currently, Nexus Valve is the largest domestic manufacturer of balancing valves and hydronic specialty products thanks to American workers taking pride in assembling American made products. Nexus Valve offers millions of valve and valve kit configurations, all designed, assembled, and tested

at our world headquarters in Fishers, Indiana. We take great pride in providing value to our customer's projects in the U.S., and are excited to expand our remarkable American made products to overseas markets. To Nexus Valve "Made in America" means accountability of quality made products for customers we care about. Our extensive family of flow control and related products for the commercial and residential hydronic HVAC industry stands alone for quality, selection, and value. So, we don't just take pride in our innovative designs, we build them too. [www.nexusvalve.com](http://www.nexusvalve.com)



### ★ Niles Steel Tank

For 122 years, Niles Steel Tank has provided industries around the world with the highest quality water storage and heating equipment. As the premier manufacturer and supplier of custom pressure vessels, process tanks, glass-lined water storage tanks and OEM vessels for major manufacturing operations in automotive, the compressor and press industries, air conditioning, water filtration,



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chemical and pharmaceutical companies and a host of other industries, Michigan-based Niles Steel Tank proudly employs 56 American tradespeople. In 2020, the company launched a fully integrated facility to expand their production of American-made stainless steel products for the hydronics, chemical and petrochemical, dairy and food processing, brewing and winery, pharmaceutical and air products industries. For more information, visit [www.nilesst.com](http://www.nilesst.com).

### ★ Oatey Co.



Headquartered in Cleveland, Ohio, Oatey Co. has provided reliable, high-quality products for the residential and commercial plumbing industries since 1916. Today, Oatey operates a comprehensive manufacturing and distribution network to supply thousands of products for professional builders, contractors, engineers and do-it-yourself consumers. [www.oatey.com](http://www.oatey.com).

### ★ ProVent



ProVent Single Stack DWV Sovent type PVC Fittings are completely made in America along with other PVC fittings that form the PVC DWV single stack system. It's called the new "System of Choice" over conventional waste, vent and revent methods for multi-story hotel- and apartment-

type construction. The system helps contractors save precious time and money when plumbing these types of buildings. ProVent and ProSet products have been creating unique time and labor saving product solutions for over 36 years. All ProVent, ProSet and Trap Guard products are American-made for plumbing and heating contractors. [proventsystems.com](http://proventsystems.com)

### ★ Rheem



Founded in 1925, Rheem is the only North American company that produces heating, cooling, water heating, pool/spa heating and commercial refrigeration products. Today the company's portfolio of premium brands includes Rheem®, Raypak®, Ruud®, Eemax®, Richmond®, as well as commercial refrigeration brands Russell®, Witt®, ColdZone® and Kramer®, which are part of the Heat Transfer Products Group (HTPG®) division. Rheem is headquartered in Atlanta, Georgia and has five manufacturing facilities across the United States. As part of the company's "Greater Degree of Good" initiative, Rheem has committed to reducing greenhouse gas emissions by 50 percent and achieving zero

waste to landfill in the company's global manufacturing operations by 2025. Rheem is dedicated to developing innovative solutions to deliver just the right temperature while saving energy, water and supporting a more sustainable future. For more information, visit [www.rheem.com](http://www.rheem.com).

### ★ Ridgid

Introduced in 1923, the Ridgid pipe wrench has been proudly made in America since day one. The iconic tool is trusted for its strength and dependability by professionals who use it for some of the most demanding commercial, industrial and energy jobs. The wrench casting is made in Erie, Pennsylvania, shipped to company headquarters in Elyria, Ohio, for assembly; and then sent to the Cambridge, Ohio, distribution center for customer delivery. To date, millions of wrenches have been shipped from the factory to more than 140 countries, and is just one of many Ridgid tools passed down from generation to generation. [www.ridgid.com](http://www.ridgid.com)



### ★ Rinnai



Rinnai's new 300,000 square foot state-of-the-art manufacturing facility in Griffin, Georgia is now open and ready for production. The company will start by producing inventory for the RE Series tankless water heater which will be available for purchase in August 2022. After production ramps up for the RE Series, the plant will begin to expand into the production of other Rinnai branded products. The facility establishes Rinnai America as the only tankless water heater company to manufacture units in North America and is the full realization of a dream of Rinnai's Japan-based ownership, to have such a facility in North America, first expressed in 2014. [www.rinnai.us](http://www.rinnai.us)

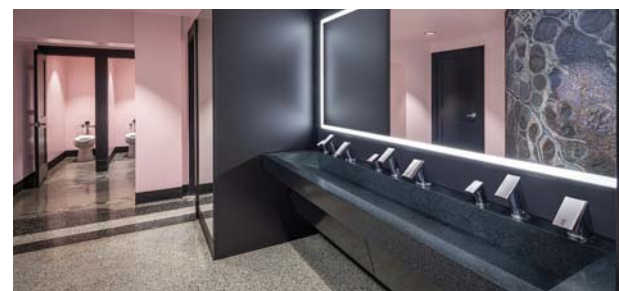
### ★ RWC

As an RWC brand, SharkBite is honored to manufacture its EvoPEX push-to-connect fittings and PEX pipe in the southern town of Cullman, Alabama, as it provides hundreds of manufacturing jobs to the Cullman community. From start to finish, SharkBite is able to control the quality of the products manufactured at the U.S. site, offering professionals a more efficient method for rough-in plumbing compared to traditional methods. [www.rwc.com](http://www.rwc.com)



### ★ Sloan Valve

Sloan's AER-DEC® is an integrated sink system with a soap dispenser, faucet, hand dryer, and sink basin all designed to work together as one touch-free and highly efficient system. The sink

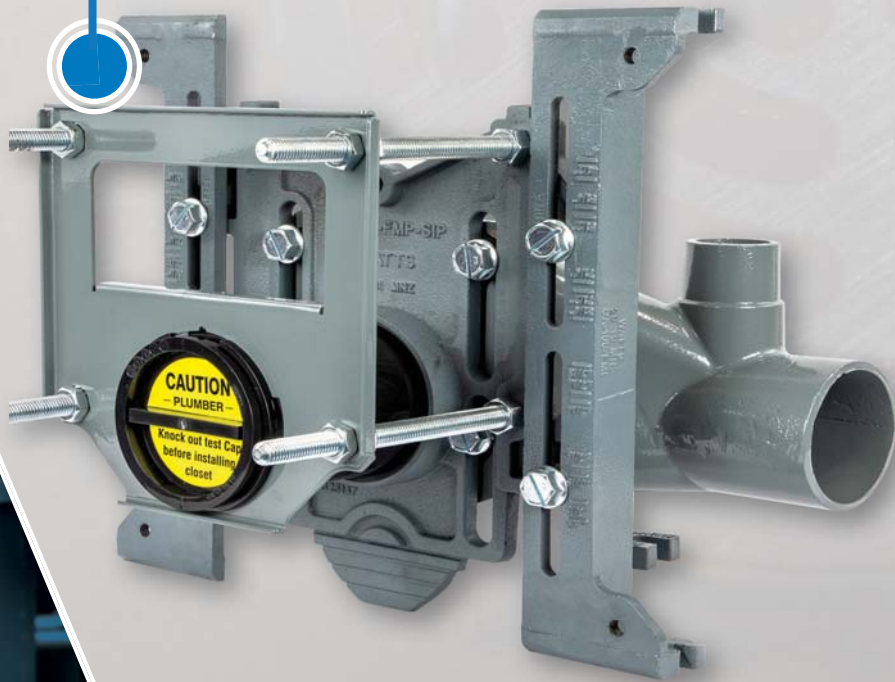


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helps maximize space and allows for a cleaner design by moving the soap dispenser and hand dryer to the deck. The all-in-one sink system is made at a Sloan facility in Mesa, AZ. [www.sloan.com](http://www.sloan.com)

### ★ Stowe Cargo Systems

Founded in 2008, Stowe Cargo Systems' cargo solutions for truck beds are designed, engineered and manufactured in Davisburg, Michigan. Stowe's 2-in-1 Toolbox and Tonneau cover system features high-quality materials and a sophisticated, low-profile design that integrates seamlessly with the styling of modern trucks to offer weathertight, clean and secure storage for work equipment and personal gear. Stowe Cargo Systems now offers a customizable Strong Box toolbox for the clean and secure storage of cargo. [stowecargo.com](http://stowecargo.com)



### ★ Tyler Pipe

Tyler Pipe and Coupling is an American Manufacturer of cast iron soil pipe and fittings used primarily in commercial construction DWV plumbing systems. This sustainable and environmentally safe product is made from nearly 95% post-consumer scrap metal and is recycled at the end of its long service life. That's Tyler Tough. [www.TylerPipe.com](http://www.TylerPipe.com)



### ★ Uponor

With PEX pipe manufacturing in both Apple Valley and Hutchinson, Minn., along with distribution in Lakeville, Minn., Uponor is the pioneer in crosslinked polyethylene production, proudly moving the industry forward with smarter, more sustainable solutions for residential and commercial plumbing, fire safety, radiant heating



and cooling, and hydronic distribution systems. Flexible, durable Uponor PEX provides greater installation efficiencies, job-site safety, and profitability potential for contractors along with superior longevity and performance for building owners and end users. With a pipe and fitting system confidently backed by a 25-year transferable limited warranty, it makes sense why the majority of building professionals in all categories of construction are purchasing or using Uponor. To learn more, visit [uponorpro.com](http://uponorpro.com)

### ★ Viega



Viega LLC, a leading manufacturer of pipefitting installation technology, employs more than 600 people in the United States. Its headquarters are in Broomfield, Colo., and its manufacturing plant is in McPherson, Kan. It has distribution centers in Kansas, Nevada, Georgia and Pennsylvania, as well as seminar centers in Colorado and Nashua, N.H. Viega manufactures a variety of products in the U.S., including ProPress® and ProPress G couplings and elbows, MegaPress® and MegaPressG elbows and PureFlow® PEX pipe and fittings. [www.viega.us](http://www.viega.us)

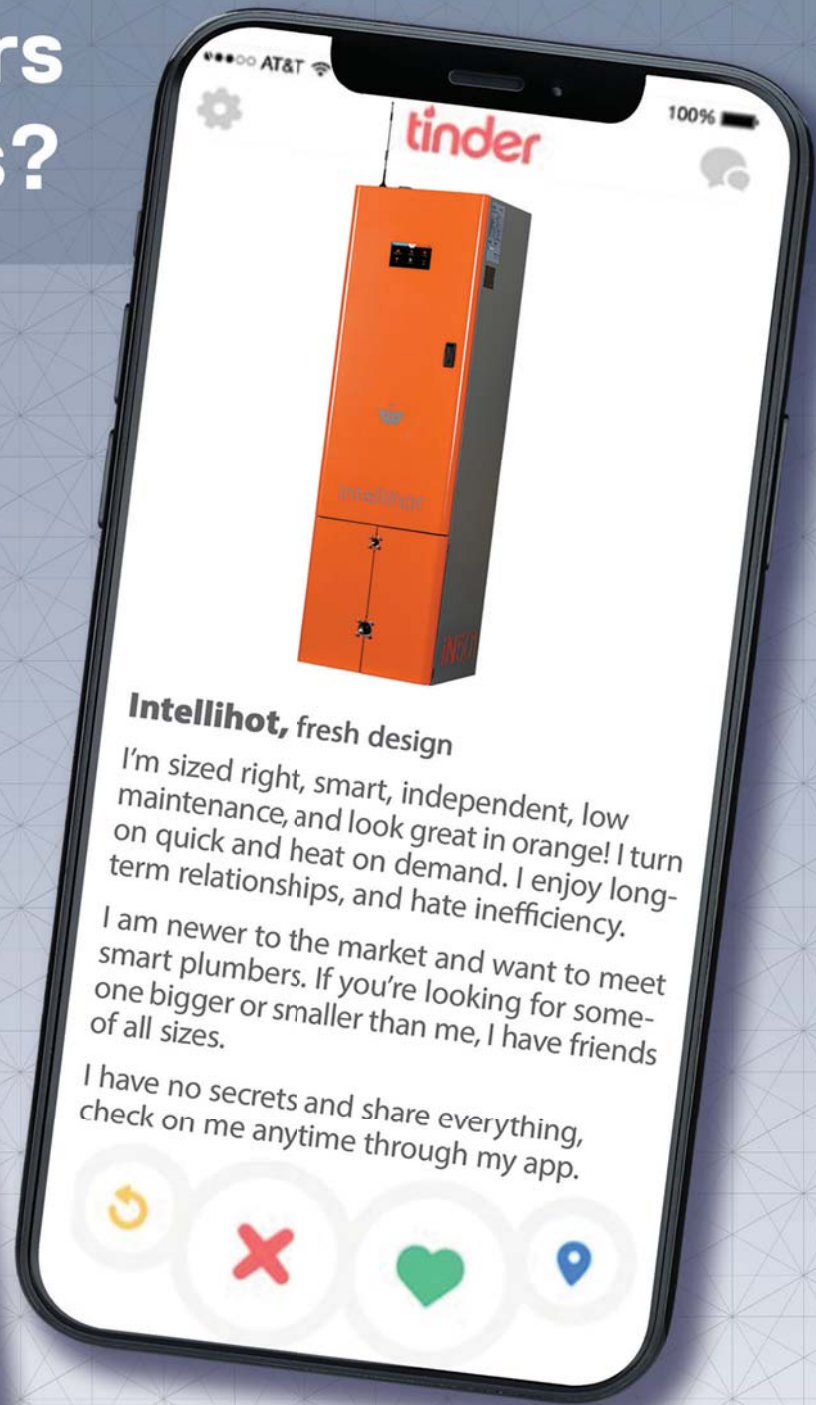
### ★ Woodford Manufacturing

Woodford Model 19 freezeless, anti-burst residential wall faucet prevents burst pipes — even if the hose is attached in freezing temperatures. The Woodford Model 19 outdoor faucet, with its easily identifiable oval handle, features a patented pressure relief valve that prevents pressure build-up and burst tubes. For just a few dollars more than a freezeless faucet, the homeowner can rest easy knowing their faucet won't burst in freezing weather, even if they forget to remove the hose. This product is made in the USA and is backed by a 5 year Limited Warranty. [woodfordmfg.co](http://woodfordmfg.co)



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# What If Water Heaters Had Tinder® Profiles?



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# Manhattan Mechanical Launches ESOP

► **Continued from page 3**

reflected in its commitment to safety and high-quality work. Now our employees are officially owners of Manhattan Mechanical.”

According to Harkness, with safety and people as core values of the com-

pany, the integrity of the employees at all levels remains unmatched, creating a vested interest in the success of Manhattan Mechanical.

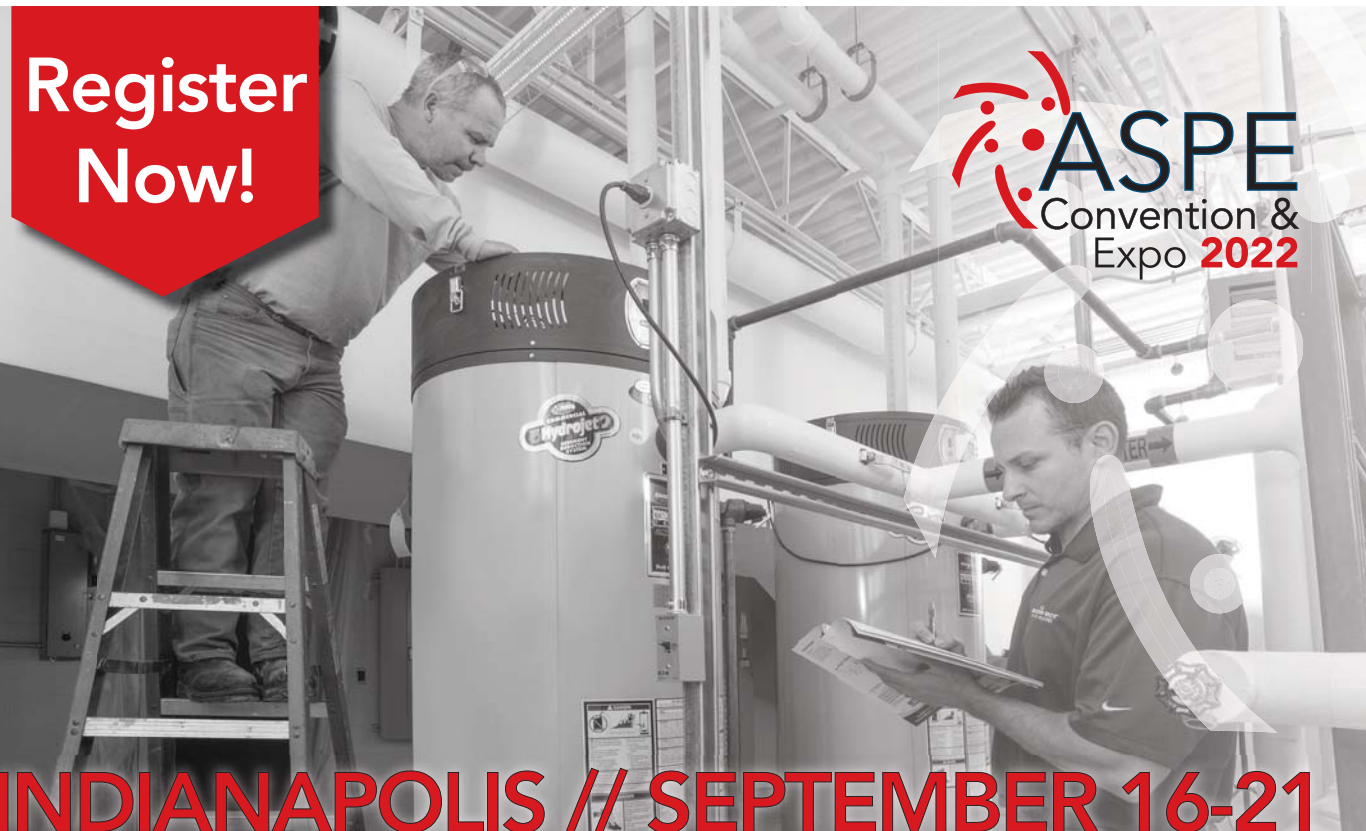
“Our goal is to increase shareholder value,” explains Harkness, “With ESOP, every employee is an owner, which

presents the opportunity for wealth creation and results in an increased price of ownership.”

## Why an ESOP?

According to The ESOP Association, offering employee ownership

through allocated shares of company stock promotes worker retention, employee motivation, and workplace productivity. With ESOP, employee ownership improves American competitiveness and maximizes human potential.



**Leading merit-shop contractor will transfer 20% of the company to its employees.**

As a qualified retirement plan, ESOP buys, holds, and sells company stock for the benefit of employees. This ownership stake will slowly transition the company’s leadership over time, rewarding the team through the company’s success.

“Customer service is readily cultivated in an ESOP environment,” says CEO Mike Uremovich, “Our team is passionate and proud of the work we produce, which results in the success of our industrial partners.”

## Rapid Growth

Since its inception in 2011, Manhattan Mechanical has experienced astronomical growth, expanding from a mere 15 employees to the current 200 personnel. In addition, the company’s growth is reflected not only in the success of its business endeavors but also in the team’s camaraderie.

“I believe the key to our success and longevity is that our company is a big family and a cohesive team,” explains Uremovich, “Everybody is pulling for the common good of the team as a whole.

“Manhattan Mechanical invests in its people with our NCCER apprenticeship program and leadership-development programs,” he continues. “We invest more in our people than any other contractor in our industry, and now our employees have the opportunity to own the very company they have grown.”

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# How Tech Can Alleviate the Water Crisis

► **Continued from page 8**

have been case studies as recent as 2021 (<https://bit.ly/3OEwTyQ>) proving the installation of products that use as little as 0.8 gallons per flush can save properties, especially multifamily properties, thousands of dollars on utility bills.

**It's not about how much water is used, it's how the water is used, and the innovative efficiencies that evolved through testing and design.**

The key is to use products that include the EPA's WaterSense, MaP or, even better, MaP Premium certifications. These certifications, combined with the right flushing technology such as a vacuum-assisted flush, can guarantee superior performance in drainline carry, little-to-no clogging and customer satisfaction.

For those concerned with using an ultra-high-efficient, low-flow product because of drainline carry, don't forget that each product does not act on its own to push waste to the sewer line. In the example of a toilet using as little as 0.8 GPF, the water being flushed to clear the bowl and push waste through the trapway only needs to get the waste to the downline. At that point, other activities at the property such as washing hands, taking a shower or even running the dishwasher will all culminate in pushing collective waste down to the sewer.

So, while using a higher GPF toilet could get the job done, it's unnecessarily wasteful. Using newer technologies such as a vacuum-assisted flush that forcefully pulls the waste and water through the trapway, into the drainline and then finishes with a powerful water push creates superior drainline carry, which has helped mitigate those concerns

about how much water is being used.

Remember, it's the flushing technology and design that creates efficiency, not how much water is being used.

Take the time to educate yourself on products that are more efficient than what local code dictates, can provide en-

vironmental and financial savings, and which environmental factors will impact building and design trends moving forward. **C**

Mike Campbell serves as the business development manager-east for Niagara.

*With more than 20 years in the construction industry, he is an expert on property ownership and disposition, as well as single and multifamily construction. Mike is a passionate conservationist who is dedicated to conserving the world's resources and providing a better, healthier living experience for all.*

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by Patrick Linhardt  
HYDRONICS MANAGER AT CORKEN STEEL PRODUCTS CO.

## Eureka!

*[Editor's note: this column finally solves a mystery that began back in Pat's January 2022 column.]*

It was a beautiful late spring morning. I was driving to the job without an expansion tank, or more accurately, the job where we hadn't found one yet, despite two other trips and lots of crawling around under the house. Today the mystery would be solved, at least I thought so.

We were scheduled to have access to the attic, since the new boilers finally were built, shipped and delivered. They were going to be installed in the partial basement along with a new expansion tank. We suspected the attic because we found three pipes leaving the crawl space to go up to an air handler in the attic. An odd number of pipes is odd in the hydronic world.

### Move to Electric

I was in a great mood. The next day I was going to drive to Oak Park, New York, near Buffalo to look at an electric vehicle. I had been urging my company to start buying electric vehicles as our gas vehicles come up for replacement. This idea was not met with much enthusiasm at first, but I found out later that a certain board member with a lot of influence convinced the rest of the board to at least buy one as an experiment.

The previous Friday, our CFO found my cubicle and informed me that I was going to be the guinea pig to have the first electric car in the company, and oh by the way, that I was in charge of selection and purchase. Luckily I had plenty of time for this project.

It was a slow day for a heating guy in the heat of the cooling season. I scheduled a test drive of one of the electric vehicles that I hadn't driven yet for that afternoon, then jumped on the internet to see what the world offered.

The boilers on this job took about

four months to get in. Most electric vehicles are six to nine months out from time of order, which is a long time to wait to begin an experiment. To get started in a timely manner, I went to a reputable used car website. About three

## Once you find something in an unusual place, you start wondering why it was installed there.

to four pages in, I found a car that fit my specifications with only 2,750 miles in Oak Park, about a six-and-a-half-hour drive from Cincinnati.

It was the brand/type I wanted, but was never able to arrange a test drive with our normal car dealer. Fortunately, a different local dealer had mysteriously

\$10,000 dealer bump to the MSRP. Yikes!

The car on the internet was looking like my best option, but if I was going to get that one, the CFO insisted that I drive it before buying it. My wife was game for a little adventure, so we

planned on leaving that Friday and make a weekend of it. If it was everything the web said, she would drive the old car back while I drove the new one.

### The Torpedo

I was thinking of all this while we were standing in the closet with the attic hatch. The homeowner was insisting that there wasn't anything up there, while also saying that she had never been up there herself. Anyway, the contractor got the hatch open and climbed up. At first, he didn't recognize it, but then had a eureka moment.

There it was, hanging from the roof trusses, uncharacteristically wrapped in un-faced fiberglass insulation, which made sense with the open to outside attic vent at one end. The contractor is a Navy veteran, so he described it as a torpedo. The homeowner was expecting something the shape of a basketball. We're not sure where she got that idea. We were just so happy to finally find the damn thing.

Once you find something in an unusual place, you start wondering why it was installed there. I usually begin with history. The homeowner said the house was built in 1952, or so. This is a nice house in a very nice neighborhood, so I suspect that the installing contractor sent an experienced crew for the install.


If the guy laying out the location of the components had 30 years in the trade, then his experience goes all the way back to the 1920's and gravity circulation, when the expansion tank was in the attic above all the radiation. Just a theory, because we'll never know.

Since the contractor decided to leave it in place, somebody, seventy years from now, is going to be looking at that tank and wondering why it was ever there in the first place. Why have 60 gallons of water exposed to freezing temperatures at the top of the house? What if it ruptures and floods the bedroom below?

### Heading-Off Future Problems

After we found it, we went back to the boiler room to figure out the best way to disconnect it. We found the  $\frac{3}{4}$ " line coming off the supply header of the existing system piping. He was going to have the install crew cap it off on the system side and leave it open on the tank side. The homeowner was pleased to have the potential problems eliminated.

The new tank would be connected to the bottom of the air separator with the fill line like we do nowadays for better air control. That keeps the point of no pressure change and the pressure reducing valve in the same place on the suction side of the system or zone pumps on the supply side. Hopefully, seventy years from now, that will still be the best way to lay out the location of the components.

The next day in Oak Park, the Ford Mustang Mach-E was everything it was supposed to be and more. The only thing my wife didn't like was the fragrance that the detail guy used. It's always something... 

*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.*



The mystery expansion tank is discovered at last.

received four new cars like it one morning the next week, so I scheduled a test drive. I picked up my wife on the way. I wanted to get her opinion, since she has opinions about everything. It's just her nature. She keeps me from making bad decisions.

There were three left when we got there. We took a blue one out on a test drive, with our six-foot nine-inch salesman comfortably seated in the backseat. There was some chatter on the internet about this model being a little cramped, but we sensed just the opposite. We loved it, but none of the three on the lot had the extended battery option that I wanted. They also had a



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by Joe Fiedrich  
PAST-PRESIDENT, STADLER CORP.



## Updating a 40-Year-Old Hydronic Heating System

A typical oil fired forced hot water heating system, installed in 1980 was ready for replacement. The original boiler room equipment was removed, which consisted of a boiler with tankless DHW coil and oil burner, the oil tank, three zone valves for copper fin tube convectors, a circulator, one zone valve for a basement fan coil unit heater, zone controls and an expansion tank.

Nothing surprising, just a typical hydronic heating system built in the Northeast and Midwest in the '60s, '70s, and '80s in the United States, of which there are hundreds of thousands still in operation today.

Not only was the boiler room equipment replaced with new updated components but the entire control strategy has been rearranged from intermittent to continuous circulation. Rather than injecting high water temperature intermittently into the system, we are now modulating the water temperature based on room temperature and/or outdoor temperature set point while keeping the circulator running continuously.

### The Control Strategy

A self-regulating circulator is adapting its proper flow rate through the system regardless how many zone valves are calling. A non-electric room temperature sensor or an electronic control resets the water temperature to the infinite degree by sensing the room temperature of the highest heat loss area of the house.

The rest of the rooms still have the option to close zone valves occasionally based on their settings and occupation. As an alternative, flow meters at the manifold can be fine-tuned to eliminate zone T-Stats and power heads (however, that degree of fine control is not for the average homeowner).

The non-electric room temperature control is an inexpensive control strategy since no expensive electronic reset controls are required. All-in-all, a



An exterior shot of the house.

Improvements in technology and changes in system design tell a fascinating story.



The original oil-fired boiler being uninstalled.

very cost effective control strategy that provides a simple and reliable building temperature control that will last for many years to come.

By resetting the water temperature at the diverting valve between the heat source and the distribution manifold to the Nth degree the precise BTU input is being offered to the building without over- or under-shooting room temperature. The rest of the temperature control is accomplished with electric zone valve power heads. 24V zone T-Stats will act as high limits. This temperature control method will assure a very high degree of improved heating comfort with a significant reduction in burned fuel.

The building is being offered the precise amount of BTU's at any given outdoor or indoor condition, regardless of external or internal heat gains due to solar gain or people.

Keep in mind the most ideal way of controlling a hydronic system is keeping the water moving continuously, fine tuning the water temperature to the building under any condition to supply just the right amount of BTU's to satisfy the instantaneous heat loss to the building.

### High Efficiency

An indirect-fired 42 gallon water heater adds to the efficient boiler room package with endless supply of hot water. The boiler, DHW tank and piping are all well insulated, which will ensure a cool boiler room while putting the BTU's where they are needed, adding to the fuel savings.

The key link between the heat source and the distribution manifold must be a three way mixing or diverting valve. The advantage of a diverting valve is the option of using non-electric low cost controls. However, if electric controls are desired, you still have the option to do so with a diverting valve. Room temperature feedback from the highest heat loss area of the building is mandatory in either case.

➤ Turn to Updating, page 40

# Take Our Tech Support Team to the Job



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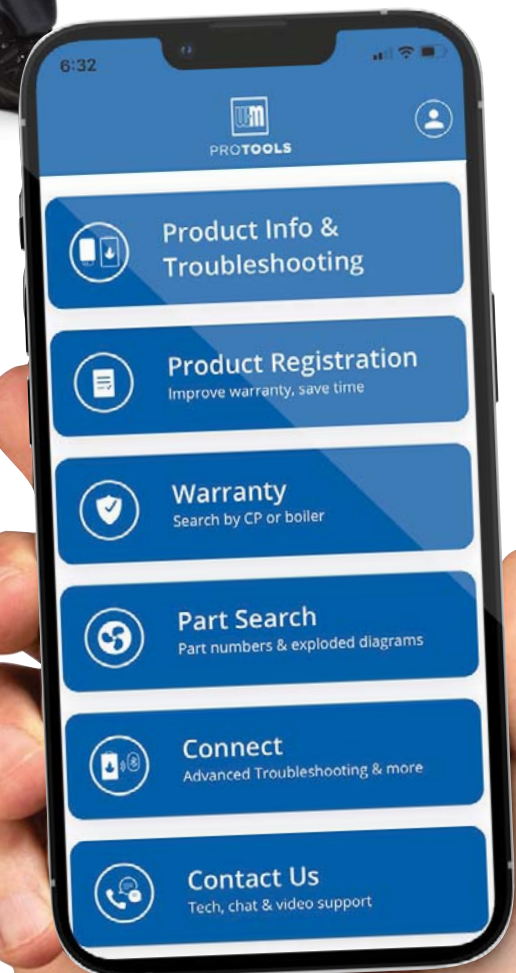
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## Updating a 40-Year-Old Hydronic Heating System

► Continued from page 38



**A Roth Double-Wall Oil Tank, Model DWT 1000L, with 275 Gallon Capacity.**

The final component replacement for our system was a double wall polyethylene/sheet metal oil tank with a 275 gallon holding capacity. A safe, clean and space saving solution.

### Proper Distribution

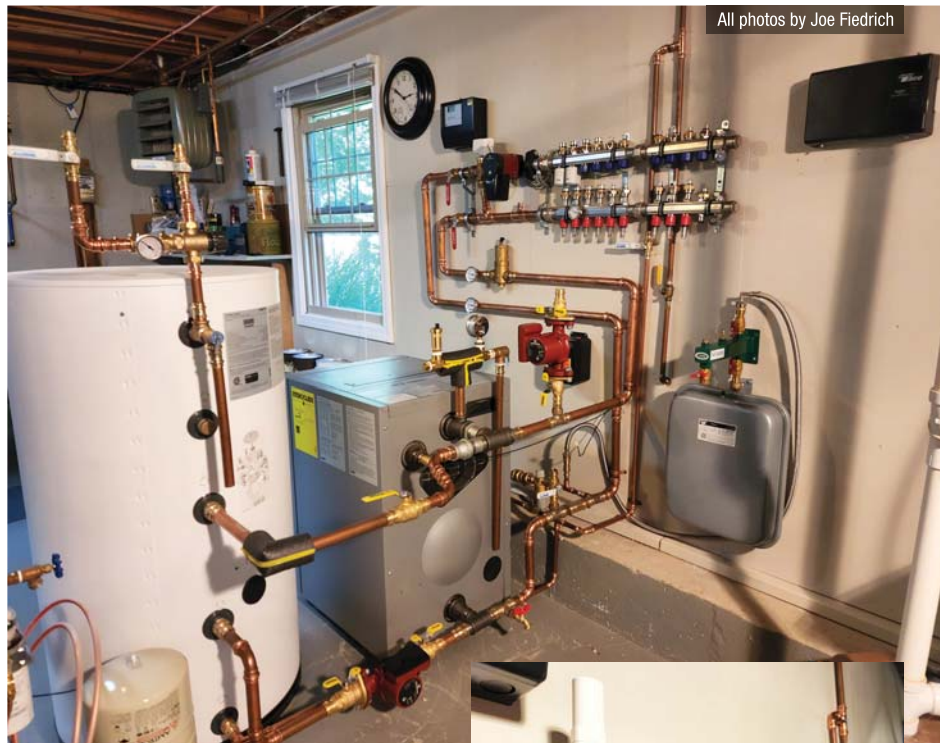
Due to a former kitchen remodeling project, a large section of the existing baseboard radiation was removed resulting in insufficient BTU output in the kitchen and the adjacent dining room.

For that reason radiant panels were added from below the sub floor between the basement joists to compensate for the output. Kick space heaters or fin tube radiation were not feasible. The panels were stapled with the aluminum side facing up. 5/16" oxygen-tight PEX tubing was snapped into the panels. 8 inch fiberglass paper backed insulation was added between the joists with a 3 inch air space between radiant panels and insulation, craft paper facing down.

Dramatically improved heating comfort will be realized next winter with a significant fuel reduction. With fuel prices going through the roof, this revamp is a blessing in disguise.

Additional fuel savings will be realized with the use of temperature setback thermostats and master controls.

Constant low water temperature circulation alone adds 1% fuel savings for every 3 degrees of system



**The new mechanical room. Left to right are a 42-gal. Viessmann Vito DHW tank, a Viessmann Vito Rond cast iron boiler, a Grundfos circulator and (on the wall) a Zilmet Model ZFT expansion tank. Above, on the wall, is a Viega Model 12152 Enhanced Mixing Station (with another Grundfos circulator on the left-hand side).**



**An Outdoor Reset Control from Viega.**

water temperature reduction versus high temperature 180 degree intermittent operation, which is causing overshooting of room temperatures, temperature swings, more convention heat than desirable radiant heat, as well as boiler room and piping transportation heat losses to get the water temperature to where it is needed at your radiators, convectors and radiant systems.


### Compare and Contrast

A typical hydronic heating system from Europe, where forced-air systems are



**A Grundfos Mixing Station Modulating Circulator, Model 99287244 ALPHA2.**

(virtually) unknown, uses constant circulation. Advantages include:

- Significant fuel savings
- Increased heating comfort
- Increased electrical power reduction by eliminating multiple zone circulators and using a single, power-saving, low-wattage circulator with zone valve and flow meter adjustments
- A "perfect marriage" in combination with heat pumps, electric boilers, solar systems and wood-fired boilers
- Small, constant BTU draw at the heat source eliminates problems related to on-off high temperature water distribution systems
- Low water temperature heat sources are now becoming super-efficient hydronic systems. 

*Joe Fiedrich is a former hydronic heating columnist for CONTRACTOR. He was the president of Stadler Corp., which is now part of Viega North America, and he is the inventor of the Viega Climate Panel and Uponor Quik Trak. He can be reached at jofiedrich@aol.com. Also, visit his company HydronicsManufacturing.com. Hydronics Manufacturing - Serving the Radiant Heating Industry*

### System Components Used in This Installation

#### VISSMANN CAST IRON BOILER

Model Vito Rond, 100 model VR 1-22, 80 MBH Output With Riello oil burner F3, Series 40

#### VISSMANN DHW TANK

Model Vito Cell Stainless Steel 300 - V, 42 Gallon Capacity

#### ROTH DOUBLE WALL OIL TANK

Tank Model DWT 1000L, 275 Gallon Capacity

#### UPONOR RADIANT HEATING PANELS

QuikTrak Aluminum/Plywood Panels, plus 5/16" Oxygen Barrier Pex Tubing

#### VEIGA DISTRIBUTION STATION

Model # 12152 Enhanced Mixing Station for (10) Circuits

#### VEIGA FITTINGS

Copper ProPress 1/2", 3/4", and 1" fittings

#### ZILMET EXPANSION TANK Model ZFT 18 R

OVENTROP NON-ELECTRIC MIXING/DIVERTING VALVE CONTROL #113 02 08 Model 101 22 97 Wall Mounted T-Stat with 33ft Capillary and Valve Actuator

#### VEIGA ELECTRONIC OUTDOOR RESET CONTROL

VITOTRONIC 100 CONTROLLER #7834 238

VEIGA/TACO 4-ZONE CONTROL FOR 24V

POWERHEADS AND FAN COIL UNIT #18060

VEIGA 24V ZONE VALVE POWERHEADS FOR MANIFOLD MOUNTING Part #15069

#### GRUNDFOS CIRCULATORS

Mixing Station Modulating Circulator #99287244

ALPHA2 Fan Coil Unit Circulator #UPS 15 - 58

three speed DHW Tank Circulator Model #UPS 15 - 58 three speed

#### AMTROL DHW TANK EXPANSION TANK

Model # ST5

#### MILWAUKEE FITTING PRESS TOOL

Model # 2773-20

#### CALEFFI BOILER FILL AND BACKFLOW

PREVENTOR Model #573

#### HYDRO-NODE EXPANSION TANK MOUNTING

BRACKET Model HN-2

CALEFFI DHW TEMPERING VALVE Model #521



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# Andres Caballero Appointed President of Uponor North America



APPLE VALLEY, MN — Uponor Corporation (Uponor) has named **Andres Caballero** president of its Building Solutions – North America division and a member of the Executive Committee at Uponor. He will be based in Apple Valley, Minn., reporting to **Michael Rauterkus**, president and CEO, Uponor Corporation.

Caballero has extensive leadership experience, including more than a decade at Honeywell International Inc., leading global businesses in Environmental and Control Solutions, Build-

ing Solutions, Honeywell Homes, and Sensing and Control. Prior to joining Honeywell, Andres led the Americas business for the Topcon-Danfoss joint venture and led the Latin America business for the Danfoss Mobile Electronics

division. More recently, Caballero has founded and run three businesses active in management consulting, AI technology, and music.

“I am delighted to welcome Andres to Uponor,” says Rauterkus. “He is a leader



**Andres Caballero**

## Two Uponor Campuses Honored with Governor’s Safety Awards

APPLE VALLEY, MN— In recognition of its exceptional workplace safety and health initiatives, Uponor North America has been honored with two Governor’s Safety Awards for 2021 by the Minnesota Safety Council. The company’s Apple Valley campus won its third Governor’s Safety Award since 2015, while the Uponor Lakeville Distribution Center has won its second award in as many years.

Since 1934, the annual Governor’s Safety Awards program measures safety performance against national averages in a company’s respective industry. The program evaluates injury data along with a company’s comprehensive safety program that analyzes a wide range of metrics. The program recognizes three levels of winners: Meritorious Achievement, Outstanding Achievement, and Award of Honor.

The Uponor Lakeville Distribution Center received an Outstanding Achievement Award for the second consecutive year, recognizing a safety program evaluation between 75 and 90 points, with incident rates up to 90 percent better than the industry average. The company’s Apple Valley campus earned a Meritorious Achievement Award. In total, Uponor




**The Governors Award for Meritorious Achievement.**

has won five Governor’s Safety Awards since 2014.

“As a five-time winner of the Minnesota Safety Council’s Governor’s Safety Awards, our team at Uponor lives and breathes safety,” noted John Reutter, interim president and vice president, Finance, Uponor North America. “We are honored to know that each day, our employees come to work and perform at a high level, never compromising

**The Uponor Hutchinson Manufacturing facility.**


the health and safety of themselves or their colleagues. This award further elevates what is truly one of the best places to work, not just in Minnesota, but in North America.”

The Minnesota Safety Council was founded in 1928 and is dedicated to improving the quality of life in Minnesota by preventing unintentional injuries on the road, at work, at home, and in the community. To see a list of all award recipients, visit [MinnesotaSafetyCouncil.org](http://MinnesotaSafetyCouncil.org). 

with a strong customer and commercial focus and has broad international experience in the manufacturing industry. His entrepreneurial spirit and proven track record in growing businesses will be important in taking our Uponor North America operation to the next level, while also expanding the company’s leadership position through new channels and new offerings.”

“I am honored to join a leading organization like Uponor,” says Caballero. “I am excited by the company’s growth strategy, tradition of innovation, and people-first culture. I look forward to working with the Executive Committee and the North American leadership team to continue accelerating the growth of the company.”

Current interim president of Building Solutions – North America, **John Reutter**, will return to his duties as vice president of Finance upon Andres’ commencement with the company.

“I warmly thank John for his strong commitment to the organization,” says Rauterkus. “I value the leadership he provided during this interim period and look forward to continuing to work with him in his vice president of Finance role of Building Solutions – North America.” 



by Patti Feldman  
COMPUTER AUTHORITY



# Three Software Solutions

**E**yeonTask ([www.eyeon-task.com](http://www.eyeon-task.com), 307-316/4418) is field service software for small and medium-sized businesses looking to automate day-to-day operations with customized software.

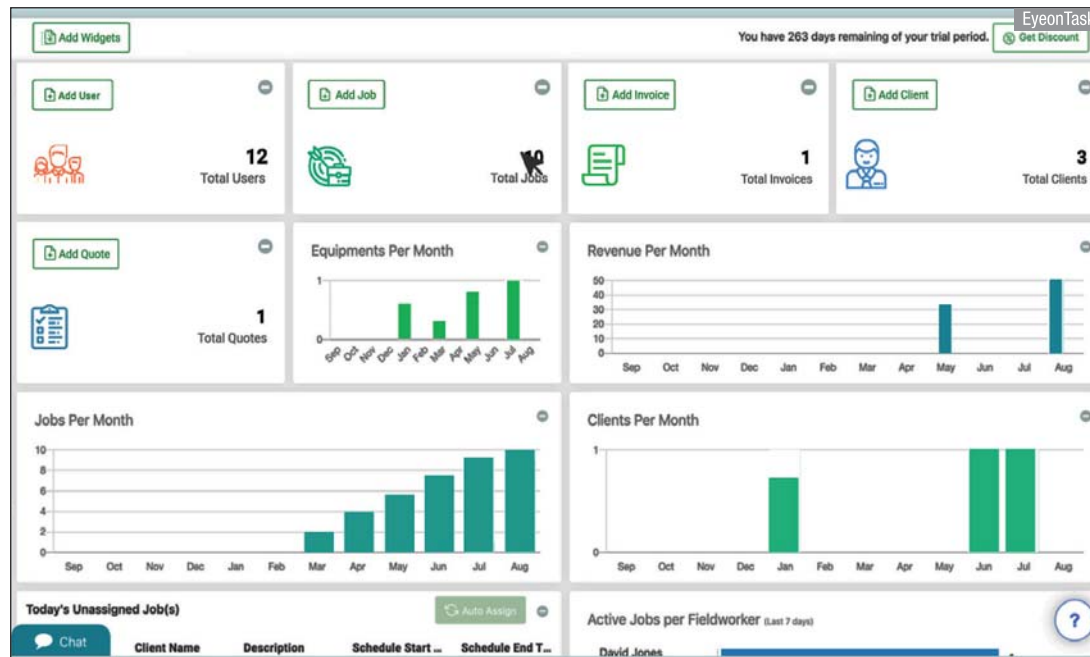
Suitable for HVAC contractors active in commercial work and available in three scaled plans (Imperative, Advance, and Premium), the solution, which includes native Android and iOS apps, handles estimates/quotes, job scheduling and dispatch, online inventory management, job time tracking, client history, and service tracking.

Upon successful completion of a work order, the field worker can take signature of the customer as a feedback for the work done and can generate an invoice for the work done and receive payments in the field. The two higher plans also include contract management and a branded customer portal.

Users can generate digital quotes for emailing from within the software or for printing out and sending. The Intelligence Scheduler function, which can feature day, week, and month calendar views, informs the dispatcher the job location, which field workers are available, and their current or preceding job locations.

Field personnel can, using the mobile app, create a quote in the field. Once approved by the customer, the quote can be turned into a work order to be dispatched to the fieldworker. Field personnel on a job can also provide customers with an estimate for future work. Invoices can be generated at the client site from customized templates that are editable in the field. You can also set up recurring invoices.

EyeonTask also provides asset/inventory management, with real-time monitoring of stock in/stock out at warehouses and low stock alerts. The module integrates with accounting—as soon as a field worker consumes an item at a client site, the back office is notified and the inventory is automatically adjusted.



The EyeonTask dashboard.

## Reviews of EyeonTask field service software, GetCost Pro for estimates and invoices, and Fittlebug real-time booking software.

Field personnel can check in/out of jobs. Plus, through the admin portal, the admin can control field personnel time logging settings and alter the in/out times of the field workers.

The contract management feature enables tracking of contract duration, budget, payment terms, equipment used, and terms of one-time or recurring invoices. You can also set up equipment warranty and annual maintenance contract reminders.

The customer portal allows customers to create their own work orders, see status updates, and make payments directly to you.

**Pricing:** subscription monthly  
**GetCost Pro** ([www.getcost.com](http://www.getcost.com)) app for iOS and Android devices (downloadable at Google Play and the App Store and also accessible through a web browser), suitable for small businesses, enables a user to create estimates and invoices, send them by SMS or email or download as a PDF, schedule, and track payments by

clients. You can include images, maintain a timesheet, set discounts and taxes per item, and allow clients to pay with a credit card or through PayPal. The app also includes the ability to maintain a timesheet.

The solution, which supports up to five users and includes team chat, enables keeping track of timesheets, expenses and mileages of each user by projects, jobs and clients. You can also easily create detailed invoices with the timesheet, expenses, and mileages. The app, which integrates with QuickBooks Online, also offers a client hub affording clients access to all estimates and invoices.

**Pricing for GetCost Pro:** monthly fee. A free version limits access to one business user and one project and has limited reporting.

**Fittlebug** ([www.fittlebug.com](http://www.fittlebug.com), 630/444-2000) is dynamic real-time booking software, suitable for small businesses, that enables a company's customers to self-schedule

appointments 24/7 based on real-time down-to-the minute or block time availability. After booking, the customer receives an immediate confirmation email. In addition, a company can send out custom reminders of appointments to customers. The software also allows the business to collect a security deposit if desired.

All prices are shown for what the customer might want. (Fittlebug is not an invoicing tool in the traditional sense although the order confirmation lays out the cost and remaining amounts less the deposit.) Business owners can create unique specials and promotions based on

dollar amounts, percentage, or custom promotions packages with unique codes for one time use or multiple use applications.

A "Hidden Charge" feature allows the contractor either to add a travel or extra charge to any zip codes, with that charge spread out over a number of items the job includes, or to add an additional amount to raise the "service provider minimum" for that zip code.

The platform, which offers a full API sync with Service Monster field service solution and dual syncs with Google Calendar, also offers a distinctive incentive savings tool that lets customers enjoy a discount in cost if they book your company services at a time available around other jobs already scheduled in their area. Owners can set distance in miles and can offer either a dollar amount or percentage to attract the customer to choose that time.

**Pricing:** two plans, each carrying a monthly licensing fee; the higher fee plan has no transaction fees while the lower monthly cost plan carries a percentage fee per transaction. **C**

*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).*

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by Matt Michel  
MARKETING AUTHORITY



# Examine, Diagnose, Prescribe

**S**hawn Henson is a successful plumber who gives back to his profession by teaching other plumbers sound business practices. One of these is to conduct a thorough diagnosis, which results in happier homeowners, higher average tickets, greater profitability, and fewer callbacks.

## What Do Doctors Do?

When you visit a doctor for an ailment, what happens? Before you even get to see the doctor, a nurse collects a host of diagnostic information on you. You get weighed. Your blood pressure is taken. Your heart rate is checked. Then, the doctor sees you.

The first thing the doc does is look over your file and asks a few open-ended questions about how you are feeling and the purpose of your visit. Based on your answers, the doc will start an examination. In the exam, he might use a stethoscope to check the rhythm of your heartbeat, your lungs, and so on. He might tap on your knee or tendons to make sure your nerves are sending the right signals to your brain. He might look at your eyes for clues about your liver health.

He might do all of these things whether they are directly related to the symptoms you reported or not. The doctor is simply being thorough. He is making sure nothing else is wrong. If something is wrong, it is better for your health to catch it early.

Based on the visit, additional tests might be required. These can include X-rays, blood tests, urine tests, EKGs, and so on.



The steps used by the medical community are identical to the steps plumbers should use on a service call.

When the doctor collects enough information, he makes a diagnosis. He tells you what's wrong. Then, he makes a prescription. Some prescriptions involve medication. Some involve behavioral changes. Some involve additional medical procedures. He can't make the prescription until he makes the diagnosis. He can't make a diagnosis until he conducts an examination.

## What Plumbers Should Do

The steps used by the medical community are identical to the steps plumbers should use on a service call, with slight modifications. Start with the exam. Move to the diagnosis. Make a prescription.

## Examination

When a plumber arrives at the home, he should be professional and attentive. Ask open ended questions and take notes. The homeowner might reveal information about additional problems. Pursue those. Ask clarifying questions.

Plumbing company owners should work with their plumbers to decide what should be part of every home examination. By asking your plumbers, you gain buy-in on the process. Consider checking hot and cold water lines, drains and drain lines, gas lines, vents, water heaters, water closets, shut off valves, faucets, and disposals. Give your people time to be thorough and do the job right.

## Diagnosis

The first obligation is to address the problem the homeowner called about. However, do not simply accept the symptom. Make sure you are addressing the cause of the symptom. Then, let the homeowner know about other things you checked.

Most will be in great shape. If so, tell the homeowner. Some will require attention in the future. Inform the homeowner what you found and what the homeowner can do. Often, there will be problems that should be addressed now to prevent bigger issues in the future. If is the plumber's obligation to let people know what they are facing.

## Prescription

The plumber's prescription is his recommendations. When applicable, the plumber should give options. Sometimes people will want the low-cost solution because they lack the money for anything else.

Other times, they will want to simply replace a product. Or, they might choose to upgrade to a better product. Yet, in order for people to consider the options, the plumber must present them.

## Be a Professional

Like doctors, plumbers are professionals. Like doctors, they should take a professional prescriptive approach by first performing a thorough examination. This should be followed with their professional diagnosis of the problems and potential problems identified. Finally, they give their prescriptions, including options.

At this point, it is up to the customer to decide on a course of action. Remember, they want to follow a course of action. That's why they called for service in the first place.

## NIBCO Promotes Dawn Bloch to VP Customer Engagement

ELKHART, IN— NIBCO Inc. has announced the promotion of Dawn Bloch to vice president, customer engagement.

In her new role, Bloch will oversee the marketing communications department in addition to continuing to manage business development and customer service. She will report to Ashley Martin, executive vice president, NIBCO.

Bloch joined NIBCO in 2000 as a customer service representative.

She held several positions of increasing responsibility including technical specialist, radiant heating advisor; radiant heat technical coordinator; customer service supervisor; customer service manager, director retail sales; manager, HR services; and director, business development and customer service.

Bloch was named to Supply House Times, "20 Women in Industry" in March 2017, an acknowledgement

of women decision makers in the PHCP-PVC industry. At NIBCO, she was recognized in 2015 with the Rex Martin award, given to recognize achievement in cost reduction, safety, or an increase in sales, and in 2018, the Alice A. Martin award, given to recognize women who demonstrate philanthropy, community service, mentorship, and support the development of other women.

Bloch resides in Elkhart, Indiana.

*In 2014, CONTRACTOR Magazine named Matt Michel one of the 18 most influential people in the history of the plumbing and hydronics industries. He can be reached at mmichel@service-nation.com or by calling 877/262-3341. Visit his website at www.ServiceRoundtable.com.*



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by Heather Ripley  
FOUNDER AND CEO OF RIPLEY PR



# A Nose for News: A Rare (and Valuable) Skill in the Trades

One of the most difficult jobs for company owners to figure out is when they have news to share with the world and, as importantly, how to create it when they do not.

If you have ever wondered why your competitor is making news or being chosen to comment on news stories, it's usually because they have either built a relationship with the reporter or because they have a public relations professional advising them on how to present newsworthy content.

Figuring out what is and is not newsworthy is a skill that you develop with a little bit of research into news events and a knowledge of what people would find interesting about your business.

Here are some tips to help you determine if your information is newsworthy or if it's merely the kind of material that would only interest employees:

**1. Impact and appeal.** If your story directly impacts an audience outside of your company, then it is likely newsworthy.

**Example:** Your HVAC company is working with the local trade college to help fund training courses for home service technicians. Since there is a shortage of skilled trade workers, this funding will help offset some of the scarcity of technicians in your community.

**2. Novelty news.** Does your information deviate from the norm? If your material is evidence of something that isn't business as usual or is extraordinary in nature, you probably have news on your hands.

**Example:** Your plumbing company has been tapped to join a mission of other plumbing experts to run pipes for a third-world community to have plumbing for the first time in their history. While running pipes for a developer's new community in Houston is pretty ordinary, running pipes for a tribal nation in a Brazilian rainforest is extraordinary.

**3. Human interest.** If you have a story that pulls the heart strings or stirs



Here are some tips to help you determine if your information is newsworthy or if it's merely the kind of material that would only interest employees.

deep emotions within a wider group of people, your material might be of interest to a reporter.

**Example:** Your HVAC company has identified a veteran who is hard on his luck and your company has purchased and installed a whole new heating system for his home, helping him and his family to stay warm this winter. Not only is corporate social responsibility a timely topic, the fact that your company is helping a local family in need is information most reporters find compelling.

**4. Innovative or first-of-its-kind.** Is your information cutting edge or revolutionary? Will your product or service change the way people use everyday items? If so, this material is a lock for newsworthy content.

**Example:** Your organization is the first home service company in your area to offer a new technology to your customers that will help them save thousands of dollars on utility bills

while improving their carbon footprint. Be careful not to frame this as a sales gimmick or you will not garner interest from journalists. However, if you're the first to roll out Elon Musk's proposed home heat pump and air filter technology, you have a story.

**5. Relevancy:** If you have expertise on a particular subject, you can impart wisdom in ways that will help the general public or can fix an issue that has been in the news.

**Example:** A winter storm is headed toward your community and, as an auto mechanic or body-shop repairman, you have some expert tips on how drivers can prepare for snowy and icy roads. This is not only timely advice, it is actually of use to readers or listeners.

**6. Celebrity.** Since there are whole websites, magazines and television shows solely devoted to following celebrities, we know that many consumers find famous people interesting.

**Example:** You're opening a new facility and the governor of your state will be at the ground-breaking ceremony. If the governor finds your story interesting, chances are others will, as well. Be sure to get consent from the celebrity before promoting their involvement.

While these are just a few tips that can help you determine whether your item is newsworthy enough to send out a press release or call your local newspaper or TV news station, there are many other items that can be parlayed into news articles. These items can include when your company wins awards, when an employee is named to a municipal board or when you donate funds to support a local nonprofit organization.

And, if you are working with a public relations agency, talk to them frequently. Let them know what your company is doing and, even if you think the information is trivial, your PR experts might see them as more newsworthy.

The trick is to continue an ongoing dialog with your local reporters, with trade journalists, with your local community and with your clientele. Even if the information is not earth-shattering news, it can still be used on your website's blog or on your social media channels.

The more you promote interesting information out to the public, the more your company's name is associated with positive or helpful information and that's always good news. **G**

*Heather Ripley is founder and CEO of Ripley PR, an elite, global public relations agency specializing in franchising, home service and building trades. Ripley PR has been recognized by Entrepreneur Magazine as a Top Franchise PR Agency four years in a row and was named to Forbes' America's Best PR Agencies for 2021. She is the author of "NEXT LEVEL NOW: PR Secrets to Drive Explosive Growth for your Home Service Business." For additional information, visit [www.ripleypr.com](http://www.ripleypr.com).*

by Ron Johnson, MBA, PMP  
NATIONAL TRAINING MANAGER FOR ARISTON THERMO IN THE UNITED STATES



# Keep the Heat on With Maintenance Programs

Whether it's shopping for televisions, cars, or the best local pizza, happy customers are return customers. For plumbing and heating professionals, one way to keep a homeowner or business as a long-term client is through a well-conceived maintenance program.

Perhaps more than ever, maintenance programs are an important part of the package that should be offered by plumbing and heating professionals. Especially in the case of high efficiency boilers, it's important to ensure that all components operate as designed. That includes fans, filters, coils, heat exchanger, igniters, gas valves, and temperature sensors. As heating systems become more complex, it's certainly to the client's advantage to keep units in top condition.

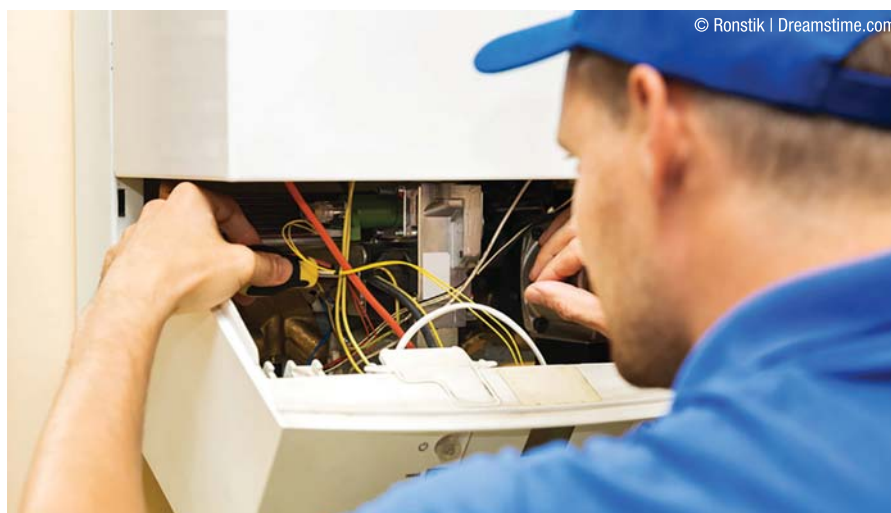
Many appliance manufacturers now even require yearly maintenance to safeguard against harmful situations that would jeopardize the operation of the appliance. Ariston's subsidiary is no exception—HTP heating products require yearly maintenance on their appliances. These programs help ensure the appliance is operating at peak performance for many years. If something in the unit did change, a yearly maintenance review will catch it and correct deficiencies.

## Both Sides of the System

Maintenance programs entail looking hydro side and combustion side and there's a simple reason why. Water is very corrosive and dirty. Contaminants can block passageways in boilers, combination units, tankless units, and other passageways such as pumps and mixing valves.

Flushing the water side of the unit and systems ensures that the right PSI is being delivered. It will also help remove scale buildup inside the tubes that allow water to circulate for heating and domestic hot water applications. Blocked passageways often cause nuisance issues that a plumber will eventually need to correct.

For tank type water heaters such as the Phoenix and Everlast Product from HTP, dirty water can produce layers of sediment on the heater transferring areas in the water heater. When this



Regular servicing boosts efficiency and improves customer satisfaction.

happens the water heater must work harder to meet demand.

Yearly inspection involves cleaning the bottom heads or pans for gas units, heat exchanger coils for high efficiency models, and elements for electric models to ensure maximum heat transfer to water. Maximizing heat transfer of water ensures the unit is operating at peak performance and helps the end user curb energy costs.

Maintenance programs for combustion side or gas side are vastly different from the water side. For combustion, it's important to clean burners, coils, heat exchangers, and other components from dirty or contaminated air. Also, low gas pressure can often lead to "smut" build up on essential components such as igniters and flame sensors that will, over time, deteriorate rapidly due to poor burn.

"Smut" is a byproduct of combustion flames that occurs due to incomplete burn of the flame. Overly rich mixtures can cause yellow tips, and those tips leave black smoke that will attach to components. This needs to be corrected and cleaned through the yearly maintenance program. Yearly cleaning of heat exchangers should occur to make sure heat can be transferred to the water in the most efficient way possible.

Cleaning most heat exchangers involves some form of washing coils, and each manufacturer should outline these procedures in use and care manuals.

## The Installer Should Maintain

Installing contractors are the best individuals to sell and service the maintenance program. This will be the person that is most familiar with the system and will ensure a seamless transition from installation to maintenance and cleaning. The installing contractor can determine the ideal schedule for the maintenance program by evaluating many factors at the job. The two biggest factors are water chemistry and gas delivery.

Installations with poor water quality or lower gas pressure may require six month checks versus yearly. Also, the installing contractor may provide discounts if you sign up at installation, or even offer it for free depending on the original contract or sales price.

Not every home or business owner is going to buy into a maintenance program. They should be aware, however, of several important points. One, it makes economic sense to invest in it. Installation costs of a new water heater exceed \$1,200 in some parts of the country. Add

in the cost of a new unit, and they are staring directly at a significant expense—probably at least \$2,000. The average cost to replace a residential boiler can be between \$4,000 and \$9,000 depending on the location.

## Not a DIY Job

Some people are going to skip maintenance by a professional and attempt to do the work themselves. Bad idea. Why? Most use and care manuals state that a licensed contractor should install and service the appliance. Work performed by unlicensed people, while well-intentioned, voids the service warranty.

Work by unlicensed people is also unsafe. Maintenance programs involve removing parts and pieces to get to the internal components that need replacing. Licensed contractors are usually trained by the manufacturer on how to take the units apart and properly reassemble them. Relying on homemade videos for work on highly combustible and complex technical heating products, especially with gas units, is an alarming safety concern and presents an unneeded risk.

While most maintenance programs are similar, the frequency of visits can be adjustable. Most manufacturers require at least a yearly maintenance service to maintain the warranty of the appliance. Maintenance programs can be as creative as the end user wants, but to protect the unit maintenance should be done at a minimum of once every year.

The bottom line is that by ensuring an efficient heating system, people might even find money savings that could allow them to purchase that new car—or, at the very least, more multi-topping pizzas from their favorite haunt. **G**

*Ron Johnson, MBA, PMP, is the National Training Manager for Ariston Thermo in the United States. A graduate of Troy University, Johnson has more than 20 years in Product Management experience and has collaborated with multi-departmental teams for plumbing and HVAC projects to design, develop, implement and evaluate new product introductions to solve market requirements.*

by **Garrett Baird**  
PRESIDENT & CEO OF THE NEAT COMPANY



# Bookkeeping Tips for Plumbers

**W**ould you prefer to encounter a skunk in a crawl space or snake out a hair clog longer than you are tall instead of handling bookkeeping for your plumbing business? If that's you, this article should go a long way toward helping you learn what to keep track of, make a solid plan for making your records consistent and ready for tax time and, ultimately, keep your bookkeeping gunk-free.

## Track all your expenses

You can't measure what you aren't keeping track of. It's no secret that running a plumbing business incurs a lot of necessary costs, such as tools, vehicles, payroll, office space, and advertising expenses. Knowing how much money your business spends and where it's spent is the key to making strong financial decisions.

While it's essential to document those expenses meticulously, that level of precision and accuracy can easily be achieved if you follow a few tricks.

## Don't mix business and personal expenses

When you're so often running from one home plumbing emergency to another—especially as a small business or freelance plumber—it's an easy thing to allow yourself to use your personal bank account and a personal credit card to make your payments. After all, you may think that your tax preparer will be able to sort out what's what. But why spend an evening or your day off sorting receipts with a tax preparer when you can set up separate accounting systems by establishing a business bank account and obtaining a credit card to be used only for business? While you can do the extra work to identify business expenses among your personal records (or personal expenses among your business records)—and some financial software even can help you do this—your goal is to make noting both of these items as painless as possible.

Credit card statements often categorize expenses, which will allow you to see where your money went. It's possible that you could visit a home improvement retailer to buy something for your home as well as for your business. Using separate cards for each purchase means

that the work-related item will be properly tracked for the write-off. And the credit card is way better than using cash, where you may wind up with a receipt that you lose or can't read when it's time to balance your books or file your taxes.

## Record everything you spend on your business

Bank and credit card statements are a good start, but every single penny you spend on your business should be tracked. While doing this is no lead-pipe cinch, paying attention to your business expenses will lead to a smoother tax season and more effective decisions about

per mile, so long as the mileage is tracked in a log)

- Salaries and benefits for those working for you, including Federal Unemployment Taxes (FUTA), State Unemployment Taxes (SUTA), payroll processing, and payroll taxes for employees, including Social Security, Medicare taxes, and unemployment taxes.

The best way to attend to this is by doing it regularly. Some businesses track their expenses in a notebook or in a spreadsheet. An affordable financial management platform, like Neat, connects to the business bank account and

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**Knowing how much money your business spends and where it's spent is the key to making strong financial decisions.**

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expanding the business, acquiring new assets like trucks, or which employees to hire and how to bill.

First, take the effort to learn which expenses are deductible. The IRS annually publishes a guide called Publication 535 if you'd like to get very, very deep into the weeds on the matter (though the 2022 version isn't available yet). Many reliable sources simplify the list, such as this one that lists 55 small business tax deductions.

The key thing to remember is that a business expense must be both ordinary and necessary to be deductible. An ordinary expense is one that's common in your trade or line of business. Necessary expenses are helpful and appropriate for your business. An expense doesn't have to be indispensable to be necessary. For a plumbing contractor, this suggests a large number of items, including:

- Tools
- Advertising
- Office Expenses
- Phone and Internet
- Insurance
- Vehicles and Vehicle Maintenance (when 100% owned by the business and only used for business purposes)
- Mileage (for 2022, that's 58.5¢

credit card, and can turn your receipts, invoices, and bills into digital, searchable documents, matching them with your banking data. Such platforms also deliver precisely the kind of information your tax accountant will need to prepare and file your business taxes, which can save both time and money at tax time. Turnkey solutions exist, which can help you manage your books and see exactly where the business is in real-time, from your computer or on your mobile phone.

Look for a solution that automates essential accounting reports, such as P&Ls, cash flow statements, balance sheets, and expense reports. At the same time, the platform should make it easy to look at your cash balance, total sales, and your most important expenses instantly. A complete financial management platform would also provide you with the ability to create and send custom-designed invoices from either your computer or a mobile device. Such a platform should also make it possible for customers to make bank transfers or credit card payments with just one tap. It would make it just as easy to move the data from whatever you're now using. Best of all, it would be designed to be easily understood and easy to use for business owners who aren't accounting experts.

## Watch Out

You can do a lot without a bookkeeper if you've got the right financial management platform. You should always watch out for these things (and use the software you get to help you do so):

- **Watch your cash flow.** If your invoices are being paid late or not at all, you're losing opportunities to grow your business (and may even find yourself unable to pay your own bills, risking your future)
- **Watch where your money comes from.** By accepting payments by credit card and digitally, it becomes easy to track your business activity, and customers even prefer paying this way. You can even explore online payment options like bank transfers or credit/debit card payments.
- **Watch regularly.** When you know the financial health of your business, you'll be able to act on financial problems and repair them before they become a crisis.
- **Watch out for the IRS.** Remember to set aside money to pay your estimated taxes when they're due every quarter. And prepare for the possible IRS audit by keeping your records carefully. (See advice above about a financial management system.) Mike Michalowicz, author of *Profit First*, recommends opening a separate account just for your tax money, and making periodic deposits into it.

When you keep an eye on your business records regularly, you'll find that you're able to breathe a sigh of relief and spend the time you saved on the things that keep your plumbing business flush with cash. Make a house call on your own books, and choose the bookkeeping solution that works best for you. **G**

*Garrett Baird is President and CEO of The Neat Company (Neat). He joined the company in 2020 to lead its entrance into the digital accounting space, helping small business owners spend more time growing their businesses while transforming mundane bookkeeping into actionable insights.*

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# Fire Protection From Afar

## ► Continued from page 6

time. With the uncertainty of scheduling removed, both parties can spend their time focused on the inspection.

### **CONTRACTOR: What type of RI equipment would be used and does it have to be uniformly compliant?**

**Victor:** Any equipment that transmits or records a RI that has the same level of optical clarity as seeing it in person can be used, subject to the approval of the AHJ. Cell phones, tablets, video cameras, drones and robots are some examples of equipment that can be used. Since we don't know what other equipment will be developed in the future, NFPA 915 allows for the use of any new device or technology that comes along. There are no specific requirements for compliance other than that the end result must be as good or better than doing the inspection in person.

**Carr:** Each AHJ will need to decide what works best for their jurisdiction. NFPA 915, *Proposed Standard for Remote Inspections* (expected in 2023), provides many types of devices that could be utilized. Currently, the most popular medium appears to be live remote video via smartphone technology for the two parties to converse. However, alternative methods could be considered.

### **CONTRACTOR: And take me through the administrative process... and who is recording onsite?**

**Victor:** NFPA 915 anticipates there could be as many as four parties involved in performing a RI: the building owner, the contractor performing the work, the entity transmitting or recording the RI, and the inspector. The building owner, or in many instances the general contractor, is notified of the inspection. The inspector authorizes the use of RI, establishes the expectations for transmitting or recording the inspection, and describes the needed results. The contractor performing the work to be inspected is present to show what was done. In some cases, the contractor may be the one live streaming the inspection on their cell phone or tablet, and in other cases a third-party entity transmits or records the RI. The AHJ

ultimately decides how the RI is to be administered.

**Carr:** The AHJ often sets the administrative requirements through their policies and procedures regarding RI. These are often found on their website or by contacting them directly. Regarding the individual onsite who is providing video for the AHJ, this could be a number of individuals. The contractor who performed the work would seem to be the most likely. However, this could also be the general contractor or the sub-contractor if the contractor of work were unavailable. Additionally, in residential construction, the homeowner may be



permitted to serve in this role. Where permitted, an approved third-party, as acceptable to the AHJ, may also be allowed to participate.

### **CONTRACTOR: What are the overall advantages of RI?**

**Victor:** The biggest advantage of performing RI is the ease of the process. Being able to conduct an inspection offsite can give an inspector and contractors hours back in their day by cutting back on travel time. Additionally, it can be a safer alternative to accessing hard-to-reach areas by utilizing drones, it limits the time spent in confined or hazardous locations and it's more inclusive to inspectors who may have mobility or other physical limitations.

**Carr:** Generally, time savings for

both travel to the site (AHJ) and waiting at the site (contractor or approved person performing the inspection) may be some of the most easily realized advantages. Further, where required, the ability to record/document inspections could prove useful in certain arrangements. Finally, the use of technology may allow for an improved result from an in-person inspection. For example, the use of drones to inspect installations on roofs allows for greater safety and perhaps a clearer view of the entire installation.

### **CONTRACTOR: Can these inspections be recorded/archived and reviewed at a later date?**

**Victor:** Yes, if approved by the AHJ. Most current users of RI do it in real time using FaceTime, MS Teams, Zoom, etc. However, recording and archiving a RI is anticipated by NFPA 915 and guidance is provided.

**Carr:** They could be. While the technology exists for recording inspections, this should be carefully considered by both the AHJ and building owner. For example, should an AHJ choose to store inspections, such items including the ownership of the images, data privacy, record retention, proprietary installations and requests for records would be a few items that need to be reviewed.

### **CONTRACTOR: What would be some examples of where RI wouldn't be permitted?**

**Victor:** RI likely wouldn't be permitted during projects where complex systems are being used, as they may require more detail than RI can provide, or in conditions with low lighting or low connectivity.

**Carr:** The AHJ ultimately determines what types of inspections should be considered for RI. However, some inspections generally do not lend themselves well to a remote process. Inspections that have poor lighting, limited Wi-Fi/cellular connection, are overly complex or involve large sections of buildings or structures might be better served by an in-person inspection.

### **CONTRACTOR: Could it be possible to "dupe" an inspector remotely?**

**Victor:** As long as the recommendations in NFPA 915 are followed, it will be difficult to dupe the inspector. When the RI is live-streamed, the inspector can direct the inspection to ensure the right item is being inspected at the correct location. I have heard of inspectors requiring the live stream to start at a recognizable intersection near the jobsite, so they know it's the right address, and then from there require the person to walk to the correct location on the jobsite to perform the RI. When an inspection is being recorded, date, timestamp, and location verification requirements in the standard will give the inspector a high degree of confidence that the right jobsite is being inspected on the right day, and at the right time.

**Carr:** While possible, I would argue that this can be drastically reduced if clear policies and procedures are developed, communicated and understood. For example, if the policies required a specific location of a structure (address, specific structure on site, floor in structure, room on floor and item to inspect) to be provided before the inspection, it will narrow the parameters of the inspection considerably.

### **CONTRACTOR: How do you see the future of RI? After COVID, people wanted to be back together so do you see this as a hybrid approach for the future?**

► Turn to Fire, page 54



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# Construction Input Prices Are Up 21% Y-O-Y

► **Continued from page 1**

input prices are 21.9% higher. Input prices rose in 10 of 11 subcategories in May. The largest price increases were in natural gas (+39.7%) and unprocessed energy materials (+16.3%).

affects is demand for goods and services, not supply. By tightening monetary policy and raising interest rates, the Federal Reserve will suppress demand over the rest of the year. Eventually, suppliers will respond to diminished demand. This

Construction Confidence Index, plus job openings, GDP and the Producer Price Index. [C](#)

## Nonresidential construction input prices also increased 2.3% for the month.

“Inflationary pressures show no signs of abating,” said ABC Chief Economist Anirban Basu. “For months, economists and others have been expecting inflation to peak and then subside. Instead, the Russia-Ukraine war has disturbed markets, driving energy prices higher. Those elevated energy prices are now circulating across the economy, affecting manufacturing and distribution, and there is little prospect for inflation to meaningfully subside during the weeks ahead.

“Federal Reserve policymakers will continue to aggressively combat inflationary pressures,” said Basu. “But what the Federal Reserve most directly

dynamic will quite likely drive the economy into recession either later this year or at some point in 2023.

“Based on the historical lag between the performance of the economy and nonresidential construction spending, more difficult times could be ahead for contractors in 2024 or 2025,” said Basu. “Looking at the most recent reading of ABC’s Construction Confidence Index, contractors are already seeing momentum slow. The likely exception is public contractors, who will continue to benefit from stepped-up infrastructure spending.”

Visit [abc.org/economics](http://abc.org/economics) for the Construction Backlog Indicator and



	1-Month % Change	12-Month % Change	% Change Since Feb 2020
Inputs to Construction	2.3%	21.4%	44.0%
Inputs to Nonresidential Construction	2.3%	21.9%	44.4%
Plumbing Fixtures and Fittings	0.4%	11.3%	14.5%
Fabricated Structural Metal Products	1.2%	32.3%	55.2%
Iron and Steel	4.8%	27.5%	102.9%
Steel Mill Products	10.7%	32.9%	128.2%
Nonferrous Wire and Cable	1.0%	19.7%	51.8%
Softwood Lumber	2.7%	-21.7%	98.2%
Concrete Products	1.6%	12.0%	16.8%
Prepared Asphalt, Tar Roofing & Siding Products	2.0%	18.9%	32.8%
Crude Petroleum	-1.6%	59.0%	107.0%
Natural Gas	39.7%	174.0%	414.0%
Unprocessed Energy Materials	16.3%	101.1%	182.4%

Source: U.S. Bureau of Labor Statistics

# Fire Protection From Afar

► **Continued from page 52**

**Victor:** Yes, to your second question. The RI concept will not be practical or desirable in all situations. However, because of COVID, many jurisdictions adopted the concepts in NFPA 915 to perform RI, and they saw the benefits firsthand. I expect many jurisdictions to continue using RI even as we start returning to pre-pandemic work practices. In many ways, RI will fill the gaps that existed even before the pandemic, and certainly those that exist today with the current labor shortage.

**Carr:** Time will tell, but it appears that more jurisdictions are considering and adopting RI policies, particularly as the trust and affordability of various technologies improve. The convenience for the contractor/owner and time savings/adoption of technology for the AHJ make RI an attractive

option for many types of inspections, particularly less complex installations or re-inspections.

**CONTRACTOR: Sometimes on jobsites there is no, or limited, Wi-Fi. How do you work around this?**

**Victor:** If the AHJ requires the RI to be live-streamed, then a jobsite without connectivity would not be a candidate for a RI. However, NFPA 915 also allows for recording of the RI, which could be used where connectivity is an issue, subject to the approval of the AHJ.

**Carr:** This can prove to be an interesting challenge and may necessitate the need for an in-person inspection.

**CONTRACTOR: I missed Johnson Controls' education session at NFPA, but I'm interested to know JCI's involvement in RI, if any?**

**Victor:** Johnson Controls is a leader for digital technologies with our OpenBlue suite of connected building solutions, which include assessment of water-based fire protection systems and fire alarm systems among other solutions to keep occupants safe and secure while optimizing building efficiency.

**CONTRACTOR: Please provide any other important or pertinent information.**

**Victor:** I expect the use of RI to grow exponentially over the next few years. By necessity, jurisdictions adopted RI during the COVID pandemic and found out the concepts can be successfully utilized for their inspections. Now that they know it can be done, and have seen the benefits firsthand, they will find more and more uses and need for RI. Practice will make perfect, and I'm sure there will be some hiccups along the way,

but RI and the other remote technologies included in the scope of NFPA 915 are here to stay, and some day will be the norm rather than the exception.

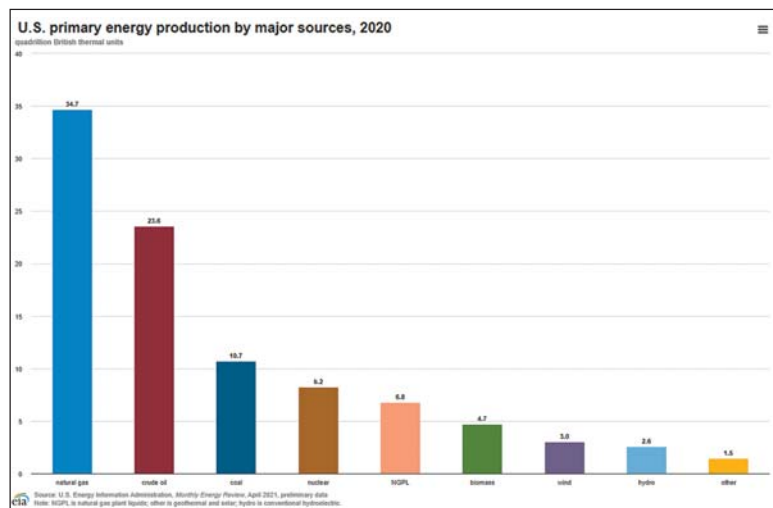
Supporting NFPA 915 is just another way that Johnson Controls is advancing the facilities management industry and helping to create safer and more effective work environments for inspectors, technicians and other trade professionals.

**Carr:** Technology is constantly changing, offering both great promise and deep questions to its application for RI. New technologies should be carefully considered, along with more traditional methods, to allow for the inspection, whether in-person or remote, to be as effective as possible. Additionally, the use of codes and standards, often in digital form (such as NFPA LiNK) should be consulted for up-to-date requirements and guidance. [C](#)

# Is Full Electrification the Only Solution?

► **Continued from page 22**

With today's technologies, residential environments can be sole producers of their own electricity thanks to solar accessibility and subsidized incentives. Homes in most urban, suburban and rural areas can produce and store modest amounts of electricity in a safe way, even selling unused energy via net metering back to the grid. These types of homes are the model in some cases; they create what they use and what they do not, they give.



US Energy information Administration

Not all locations are created equal though; some areas of the country experience far less sunlight or wind than others and they will need to purchase some electricity from their utility provider to operate their homes' equipment and appliances. Believe it or not, 82% of U.S. households still using distillate fuel oil are in the Northeast. That percentage is out of 5.3 million households that use home heating oil as their main heating fuel, according to the federal government.

I am from New York, and I know firsthand that this region of the country has made tremendous progress in its transition to clean natural gas over the past few decades. Suburban areas like Long Island went from leaky in-ground oil tanks and unsightly and dangerous propane vessels strapped to the homes to connected sources of natural gas delivered directly from underground piping networks. Unfortunately, there have been many bumps in that road as it relates to adequate production, leading to localized gas moratoriums, stifling new construction and in turn limiting environmentally conscious options for homeowners.

The Northeast knows very well what it is like to not have electricity for durations of time thanks to unfortunate events like Superstorm Sandy and other historic blackouts. The redundancy that fuel sources have provided this region's most critical environments has taught us that alternative energy sources are vital to keeping society operating safely. Having access to fuel sources during these events has provided life-sustaining solace for people who otherwise might not have had

heat, hot water, or temporary electricity during these kinds of catastrophes.

Heating equipment for homes has seen a bit of a renaissance due to these ever-changing conversations. Electronic equipment like boilers and water heaters, although not as efficient and effective in recovery as fuel, has been greatly improved over the past few years. The mass introduction of heat pumps and geothermal presents amazing options when paired with green sources of energy generation, and they are competing for the void fuel is leaving in the residential space.

There is still so much more innovation to be seen, and although we tend to think we have solutions, our problems will forever continue to change. With radical weather patterns and climate change we are constantly reminded that we must remain malleable and able to pivot with balanced hybrid approaches that shine a spotlight on resiliency by renewables.

## Together We Can Find a Way

We have our work cut out for us in the plumbing industry as we adapt to these new applications and alternative

fuel sources coming down the pike. We must not forget the fundamentals of what we do, and that is to provide safe working pipe systems for the people, wherever they are and whatever the medium.

That is why the folks at the International Association of Plumbing and Mechanical Officials (IAPMO) are working each day to create cutting-edge innovation task groups, specifically designed to go head on with these new approaches and work to create actionable guidance documents that can be adopted into code for the safety of the public.

IAPMO is slated to kick off its Hydrogen Fuel Gas Piping Task Group this summer, and your effort and willingness to volunteer will make a lasting impact on the safe implementation of modern fuel gas piping systems. The group plans to tackle topics such as acceptable piping materials for hydrogen blends, inspection processes, leak detection and other piping and appurtenances requirements.

If you are interested in joining us, please check out [iapmo.org](http://iapmo.org) for more information.

*John Mullen is director of Technical Services at IAPMO, where he engages with industry professionals throughout the world, bringing the best and brightest minds together to work on safety initiatives and code-related topics. For nearly two decades he has offered his unique leadership experience and vision to help develop more intelligent and sustainable systems, running operations for large union plumbing and mechanical outfits.*

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# Geo Heat Pumps Mkt. to Reach \$19.4B by 2030

► **Continued from page 3**

both heating and cooling and when powered by renewable energy sources.

## Demand to Drive Market

Globally, population growth and rapid industrialization have resulted in massive energy demand. In most households, lighting and electrical appliances, cooking, space heating/cooling, water heating, and other energy-related activities are frequent. The use of fossil fuels like oil, coal, and natural gas to meet heating needs is rising, posing a threat to the environment.

Fossil fuels power the bulk of building furnaces and boilers, accounting for **42% of greenhouse gas emissions**. As people become more aware of climate change and greenhouse gas emissions, demand for energy-efficient products and solutions is expected to surge.

Government limits and emission standards are likely to strengthen the market for energy-saving equipment in the industrial and residential sectors. A heat pump uses one kilowatt of energy to produce four kilowatts of thermal power, resulting in a 300% efficiency. According to the International Energy Agency (IEA), heat pumps help reduce carbon dioxide usage, resulting in an annual reduction of **9.16 million tonnes of CO<sub>2</sub>** emissions across Europe.

The geothermal heat pump market is expected to be driven by rising demand for energy-efficient technologies and a worldwide effort to curb or reduce carbon emissions over the forecast period.

New building cannot meet demand as many older residential properties in developing economies are near the end of their useful life. As a result, the housing market's sector of renovating, maintaining, and preserving existing properties is rising. Also, over the forecast period, the Asia Pacific region's burgeoning demand for infrastructure and property developments is expected to drive increased demand for geothermal heat pumps.

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## The post-pandemic period will be crucial for the global market.

Internet of Things (IoT)-based heat pumps enable real-time monitoring, predictive maintenance, and component remote diagnostics. Internet of Things (IoT)-based heat pumps use smart thermostats to monitor environmental changes and communicate with their water heater equipment. Their designs and operations, on the other hand, have remained unchanged. Automation and remote operation have been essential concerns in developing next-generation heat pumps for simplicity of operation.

Heat pumps that use machine learning and artificial intelligence can assess consumers' consumption patterns and calculate their operational time and length, eliminating the need to turn them on and off manually. These factors are expected to increase heat pump demand and present lucrative opportunities for market participants.

## Impact of COVID-19

The geothermal heat pump market expansion has been limited by a stoppage of manufacturing activities and a drop in demand for commercial services in 2020. As a result, demand for geothermal heat pumps has fallen in the residential, commercial, and industrial sectors. Construction and industrial activities have come to a halt worldwide due to the pandemic, restricting demand for geothermal heat pumps.

There have been delays in the supply of air conditioners and heat pumps due to disruptions in the logistic network. The European Union's HVAC production lines were shut down for several weeks, postponed new installation projects.

The post-pandemic period will be crucial for the global geothermal heat pump market. Supply chain interruptions might impede recovery, affecting market dynamics and product prices. Furthermore, the

global market would face hurdles due to poor financial conditions and rising expenses due to distribution and transportation capacity constraints. Limited manufacturing, support operations, labor shortages, and limits for other end-user sectors, suppliers, and vendors may also prevent consumers from getting what they want. Overall, the global geothermal heat pumps market's recovery will be difficult.

## Regional Insights

North America, Europe, Asia-Pacific, Central, and South America, the Middle East, and Africa make up the market's five regions. Asia-Pacific and Europe are the two most important markets for geothermal heat pumps. Factors such as improving financial conditions, rapid industrialization, and globalization will likely drive market growth over the forecast period.

The **Asia-Pacific** region is defined by the affordable availability of large numbers of skilled workers. The expanding trend of shifting industrial bases to emerging economies, notably China and India, is likely to drive geothermal heat pump market growth throughout the forecast period.

**Europe** is expected to be the second-largest market for geothermal heat pumps, with an expected market value of **USD 5,993 million by 2030**. Throughout Europe, energy-efficient technologies are likely to be in high demand. Various government programs are being pursued to reduce the region's energy use. As a result of these initiatives, heat pump demand is forecast to rise.

**North America's** economy is the world's largest and one of the most stable, with significant growth owing to industrial dynamics and commodities availability in its countries. Over the forecast period, favorable government policies and growing subsidies on renewable and energy-efficient products are likely to propel the geothermal heat pumps market. The market for advanced geothermal heat pumps is expected to increase due to government efforts and rebates that encourage the use of environmentally friendly and energy-saving technologies.

In **Central and South America**, growing energy consumption in countries like Brazil and Argentina is likely to increase the demand for energy-efficient heating solutions, boosting the market growth. In addition, over the forecast period, the evolving residential and commercial development sectors are expected to impact geothermal heat pump demand positively.

Residential and commercial infrastructure expansion, particularly in Saudi Arabia, the United Arab Emirates, and Qatar, will benefit overall market growth. Furthermore, the government is pursuing sustainable energy sources such as solar, wind, and geothermal energy. As a result, the variables above will likely enhance the MEA's entire geothermal heat pump market. **G**

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# Student Innovators Compete to Address Global Water Issues

WASHINGTON, DC — More than 800 high school and university students from around the globe accepted the challenge from water technology leader, Xylem (NYSE:XYL), to take on water and climate issues through the second annual Xylem Ignite Global Student Innovation Challenge competition.

“We’re committed to championing student innovators because young people hold the key to a more water-secure future,” said Patrick Decker, Xylem’s CEO. “The results of this year’s competition show the power of their creativity and passion to address major water challenges.”

## Team SWiFT


Team SWiFT from Santa Clara, California, is the grand prize winner in the secondary (high) school category, awarded for their efforts to improve the life span of a water pump. “The big problem is that water scarcity and water stress are plaguing many countries in Africa,” noted the team. “More than one million hand

pumps installed there support rural communities with one in five people relying on them for drinking water.” By creating a unique design to reduce repair time and provide easy access to troubleshooting, the team was able to address a 30% pump failure rate.

## Team AquaFlo

Team AquaFlo from Ontario and British Columbia in Canada is the grand prize winner in the tertiary (university) category for their design of two different technical solutions to notify users when a water hand pump is out of service. Their concepts include an innovative mobile app, interactive voice response and an automated message service system. “We are passionate about using technology for social good and were immediately drawn to the challenge of keeping water flowing in rural communities,” the AquaFlo team noted. “We saw a real opportunity for us to improve the quality of life for a significant part of the population.”

Now in its second year, the Xylem Ignite Global



A student presenter from Team AquaFlo of Ontario and British Columbia in Canada. Team AquaFlo is the grand prize winner in the tertiary (university) category.

A student presenter from from team SWiFT of Santa Clara, California. SWiFT was the grand prize winner in the secondary (high) school category.

Student Innovation Challenge drew interest from students in 51 countries. Over an eight-week period, students were tasked with developing ideas to solve one of four critical water challenges—data storytelling for water insecurity, creating a floating city master plan, keeping water flowing in rural communities and kickstarting water’s race to net zero.

Xylem will recognize the grand prize winners in a virtual ceremony to be held today. In total, the judges identified 12 winning teams who will receive money from the \$20,000 prize pool.

The winners of this year’s competition will also be given the opportunity to enroll in Xylem’s Ignite Innovation Incubator, a program that provides support for participants to scale their concepts and advance them toward market readiness.

For more information about Xylem Ignite, including on-demand access to the awards event, visit <http://www.xylem.com/ignite>.

# Harris Supports Children’s Non-Profit Sisu with \$25,000 Donation

GAINESVILLE, GA — For many years, The Harris Products Group has provided financial support for a non-profit just down the street from its Gainesville, Georgia, facility. The organization, Sisu, brings educational, therapeutic, nursing and support services to children with special needs in 16

interact alongside their typically developing peers.

This spring, Harris donated \$25,000, bringing its total support over the years to more than \$285,000. These donations have helped build new classrooms, improved playgrounds and assisted with Sisu’s administrative costs.



Harris Products Group presented a \$25,000 donation to Sisu in May. Pictured from left are Amy McMillan, Michelle Kuhrt, Carla Baker, Greg Doria (president of Harris), Daphaney Teaver, Melissa Nolan and Gloria Farrell. Baker, Teaver and Farrell are Sisu employees.

counties in northeast Georgia. Sisu’s integrated learning environment allows children from six weeks to six years with special needs to learn and

“At Harris, we’re proud to continue our annual charity contribution to Sisu, our friend and neighbor,” said Melissa Nolan, Human Resources Manager at Harris. “Over the years, many of our employees have had children enrolled at Sisu and we are happy to be able to support them both financially and as a good neighbor.”

Sisu is a Finnish concept that relates to inner determination, persistence, grit, bravery, resilience, hardiness and indomitable spirit. This is the mindset that Sisu encourages to help these children reach beyond perceived capabilities

and take action against all odds.

More information about Sisu can be found at [mysisu.org](http://mysisu.org).



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# editor's choice

**PIPING PACKAGES** from Siemens make installation easier by reducing several connections, which minimizes the chance for error, eases installation, simplifies commissioning and makes distribution at the job site easier and less expensive. The HVAC Integrated Tool has filters and calculators that quickly select the right piping package for an application. The valves and actuators offered within the pre-assembled piping package come in the most popular standard pipe sizes and types from ½" to 2" ball, globe and pressure independent control valves. Provided with NPT connections, and choice of 12" 18" and 24" stainless-steel hose lengths. Designed according to exact customer requirements. Pre-assembled at the factory for easier connection to the coil, and tagged for easier identification at the jobsite.



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▼ **THE FRIDA BATHROOM SINK** is formed with a nonporous material that's naturally resistant to stains, mildew and bacteria. The curved basin portrays a soft design. It is 15 3/16" by 6 15/16" by 18 5/16". Drain assembly not included.

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▲ **C-RHEX SAWTOOTH MAGNETIC HEX DRIVERS** comes in ¼" and 5/16" hex sizes. Available in 2" and 6" lengths, the tools feature an integrated sawtooth design that can cut through soft and hardened HVAC and roofing sealant for rapid fastener removal.

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▲ **JM-2900 JET-SET GAS-POWERED WATER JET** can clear grease, sand, ice, and other "soft" stoppages from 4" to 8" drain lines. It's light and maneuverable yet maintains the same pressure and flow rate as other jets in its class. The 200'-capacity hose reel is mounted on a maneuverable, heavy-duty frame.

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▲ **IN2ITION TWO-IN-ONE SHOWERHEAD** has a detachable hand shower which can be used separately from or simultaneously. This integrated dual-functionality gives users flexibility without sacrificing warmth. Touch-Clean spray holes make it easy to remove mineral buildup.

**Delta Faucet Co.**  
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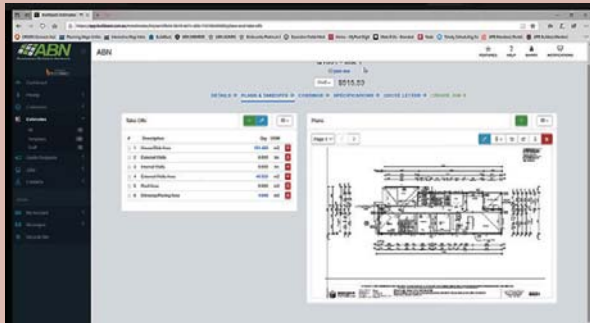
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# software spotlight

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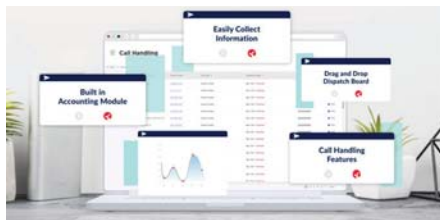


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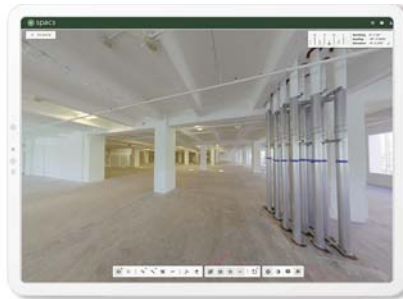


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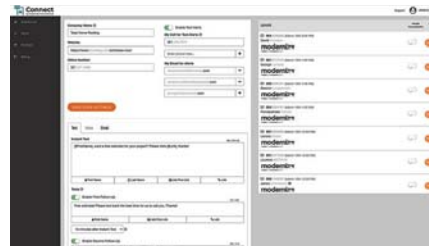
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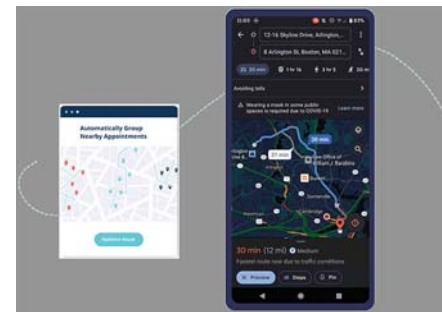


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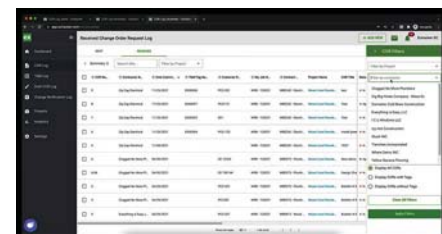


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# The Manufacturer Relationship

If it's July, then it's time for our big Made in America feature (starting on pg. 24), where we shine a spotlight on some of the nation's best manufacturers.

I think it's fair to say that the skilled trades are closer to the manufacturing industry than other professions. For example, I'm in publishing and, while there are brands of pen or laptop I prefer to work with, at the end of the day it doesn't really make much difference to the final product. As for who manufactured the press this issue was printed on (or who manufactured the server hosting the digital version of this story if you're reading on your phone)—I honestly haven't a clue.

But for plumbing and heating contractors it's a different story. The tools they work with, the equipment they install and recommend, the brands of pipes, valves, and fittings they use, it all has a big impact, on both the quality of the finished work and how the work gets done.

Sometimes these relationships are as simple as brand loyalty. I find this to be especially true when it comes to tools; shops that use nothing but Milwaukee, or

nothing but RIDGID. If a manufacturer can deliver a high level of performance and dependability, why would you change? Then there's the added assurance of knowing all your parts and pieces, chargers and accessories will work together.

Taking things to the next level are authorized dealer agreements—often

that their products will be installed and maintained correctly, which means happier end-users which helps their long-term brand value.

Manufacturers these days are playing a larger role than ever in training and education, and most take the wide view; not simply "this is how you install and service

prentice competitions for organizations like the PHCC and SkillsUSA.

Manufacturers like Uponor and Viega can offer design services where they are selling not just their products but their expertise. They can be a great resource for contractors looking to expand their product offering, or maybe tackle technically challenging jobs outside their comfort zone.

There are even manufacturers addressing the workforce shortage at its roots, working to make the skilled trades an attractive career choice for young people. Pfister's American Plumber Stories docu-series ([www.americanplumberstories.com](http://www.americanplumberstories.com)) has done a fantastic job exposing young people to the real work and real rewards there are to be found in the plumbing and heating industry.

There's a lot of value to be found in manufacturer relationships but, like any relationships, they require an investment of time and attention. Summer can be a crazy time, but when things are less busy schedule some time to call or email your reps. It might pay off. **C**

**I think it's fair to say that the skilled trades are closer to the manufacturing industry than other professions.**

exclusive—typically offered by large equipment manufacturers (like Laars, Lochinvar, and Rheem).

For the dealer/contractor, a successful agreement means adding the prestige of the manufacturer—it's perceived value among the buying public—to your own. Big manufacturers can run nation-wide media campaigns, and authorized dealers get a boost from that. For the manufacturer, it means a level of assurance

this product," but "this is how you deliver comfort and efficiency to the customer." They reason, rightly, that what's good for the industry will be good for them.

Some notable examples (just to name a few) include the Coffee with Caleffi webinars (often hosted by industry legend John Siegenthaler), Oatey University and Bell & Gossett's Little Red Schoolhouse. Manufacturers such as Rheem, Delta and Bradford White also sponsor various ap-

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Electric Eel Mfg Co. Inc.	emiductless.com	12
FloLogic Inc.	flologic.com	55
General Pipe Cleaners	drainbrain.com/hotspot	IFC,61,18
IntelliHot Green Technologies Inc.	intellihot.com	33,61
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Rinnai America Corporation	rinnai.us/talkingtanklesstruths	13,63

Advertiser	Website	Page
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Service World Expo	serviceworldexpo.com	47
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Sloan Valve Company / Sloan Global Holdings, LLC	sloan.com/touch-free	41
Stiebel Eltron Inc	stiebeltron.us	45,63
Supply Smart	suppliesmart.com	63
supplyhouse.com	supplyhouse.com/trademaster	35
Taco, Inc.	tacomfort.com	19,63
Tyler Pipe, McWane Plumbing	tylertough.com	51
U.S. Boiler Company	usboiler.net	21,62
United Rentals, Inc.	unitedrentals.com	IBC,61
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