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ACHIEVING MILESTONES

Wisconsin businesswoman brings a different approach to the plumbing industry and sees her company grow steadily **Page 12**

▲ On The Road
FINDING AN EASIER AND
SAFER WAY TO APPLY FLUX
Page 22

▲ Getting Down
to Business
PUTTING TOGETHER A BUSINESS
PLAN IS THE FIRST STEP TO
SUCCESSFUL COMPANY
Page 24

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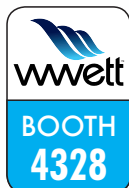
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On the ROAD

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- By Ken Wysocky



On the Cover

Adam Langridge, master plumber at Milestone Plumbing, sweats a copper pipe as he replaces a laundry faucet at a residence in Wauwatosa, Wisconsin. Milestone Plumbing, owned by businesswoman Jessie Cannizzaro, is based in Wauwatosa and offers service, repair, remodeling and drain cleaning services in the greater Milwaukee area. **Photography by Michael McLoone**

Coming Next Month - WWETT Show Issue, Residential Plumbing

- ▲ Plumber Profile: Precision Plumbing and Contracting Services (Temperanceville, Virginia)
- ▲ On the Road: FloLogic Leak-Control Systems

8 From the Editor: All Walks of Life

It doesn't matter what your background is, it's how you use it in this industry.

- By Cory Dellenbach

10 @plumbermag.com

Check out our exclusive online content.

12 Profile: Achieving Milestones

Wisconsin businesswoman brings a different approach to the plumbing industry and sees her company grow steadily.

- By Ken Wysocky

24 Getting Down to Business: Drafting a Plan

Business plans keep new owners on track in their goal of developing a successful company, but it may require some help to get it started.

- By Joan Koehne

28 In the Shop: Cold No More

Heated workwear category growing in trade industries as a way to keep workers safe, and increase productivity.

- By Jared Raney

30 AHR Preview: It's Show Time

Get the most out of your attendance at the AHR Expo in Atlanta.

- By Nicole Bush

32 AHR Product Preview

34 First Responder: Emergency Situation: New Sewer Line Needed Stat

Texas contractor installs new sewer line at hospital using a static pipe bursting system in just three weeks.

- By Ken Wysocky

36 Smart Business: How Will Tax Reforms Impact Your Business?

If you haven't talked to your accountant about new federal tax rules, make an appointment to do necessary adjustments.

- By Erik Gunn

40 Industry Insider: The Ultimate Gift

Many organizations in this industry join to help those who still don't have access to clean or safe water.

- By Randy Lorge

44 Product News: Product Spotlight: Hybrid water heating for commercial applications

- By Craig Mandli

46 Product Focus: Hydronic Heating Systems, HVAC

- By Craig Mandli

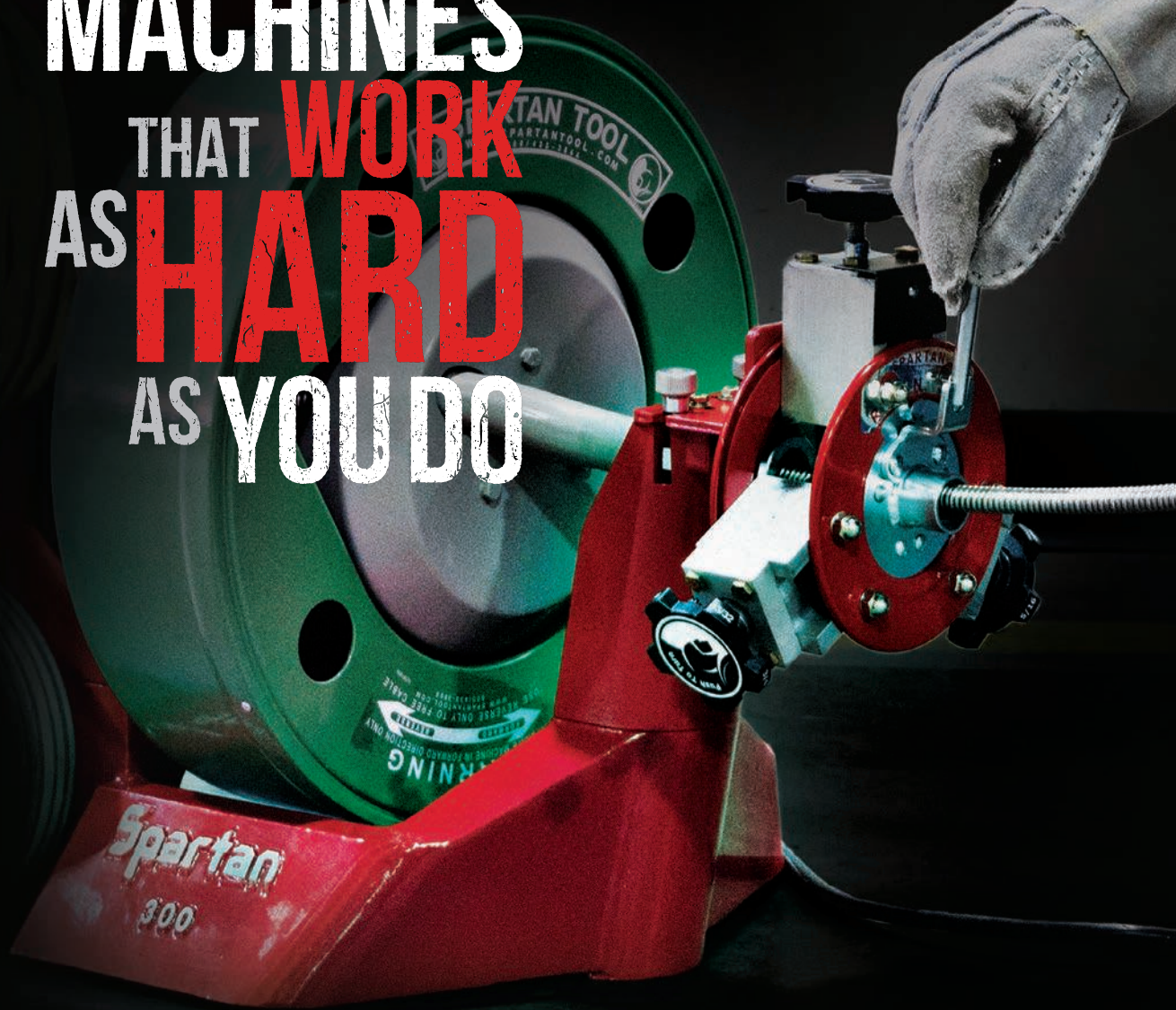
50 Case Studies: Hydronic Heating Systems, HVAC

- By Craig Mandli

54 Industry News

56 Calendar

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ALLAN J. COLEMAN
SINCE 1905

Allan J. Coleman Co.19

American Jetter 56

Angeion Group57

Arctic Blasters, Inc. 56

BK Resources 55

BRADFORD WHITE
WATER HEATERS

Bradford White Water Heaters.21

Caleffi North America17



Cam Spray27



Central Oklahoma Winnelson 52

DURACABLE
MANUFACTURING

Duracable Manufacturing Company . 43

Enz USA Inc.37

FastEST, Inc. 55

FloLogic27

General
PIPE CLEANERS

General Pipe Cleaners/

General Wire Spring2

Hot Jet USA 58



MaxLiner USA33

Meaty-Delivery. 56

Milwaukee Tool.39



MyTana Manufacturing9



Perma-Liner Industries, LLC 60

PHCC - GLAA53



Picote Solutions 41



Pipe Lining Supply 59

Pulsar 2000, Inc. 20

Saniflo - part of SFA Group11



Spartan Tool5

Texas Metal Specialties.15

Texas Truck Racks 29

The Home Depot. 25



TRIC Tools, Inc.3

VT Hackney/Hackney37



Water Cannon, Inc. - MWBE7, 56

Water Quality Association35

WWETT Show 42

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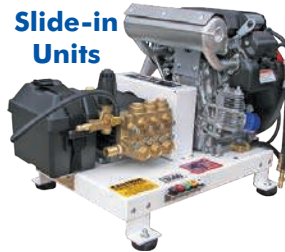
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Cory Dellenbach

All Walks of Life

It doesn't matter what your background is, it's how you use it in this industry

I

t is sometimes amazing just sitting back and thinking of the various backgrounds people can come from. It's even true with plumbers.

Since I took over as editor of *Plumber* at the end of 2016, I've talked to plumbers who started their careers working with city water and sewer departments, others who started from the ground up as apprentices, and those who grew into a family business.

In this issue, we highlight a plumbing company owner who has a business background. Jessie Cannizzaro started Milestone Plumbing in suburban Milwaukee in 2011. She stepped into this industry after earning an undergraduate degree in business and an MBA degree. She had no thoughts of entering the plumbing world while she was earning those degrees. How did she get into it then? By filling in for her dad at his plumbing company after he suffered a stroke.

Cannizzaro not only owns a company, but she also teaches plumbing at a college in Milwaukee, sharing her knowledge with the next generation.

WORKING TOGETHER

It's interesting when you hear all of these individuals talk about their diverse backgrounds and what that can do for the industry.

Having diverse backgrounds can create innovation because of the experiences and working styles that might have been learned. Creative concepts can be born from bouncing ideas off each other and offering feedback and suggestions.

There is no better way to start sharing those ideas and offering that feedback than at conferences.

One of the industry's biggest shows, the AHR Expo, is taking place Jan. 14-16 in Atlanta. The show is expected to draw thousands of plumbing and HVAC contractors.

Having diverse backgrounds can create innovation because of the experiences and working styles that might have been learned. Creative concepts can be born from bouncing ideas off each other and offering feedback and suggestions.

You'll find a preview to that show in this issue. If you're attending, don't be afraid to go up to people there and start talking about the industry. You might come back home with ideas of what to do with your own company.

That business background can also help someone who wants to get started in this industry with their own company by knowing the ins and outs of starting up a business. This month we start a regular feature in *Plumber* where we give you tips and suggestions when it comes to starting your own company.

This month that column focuses on drafting a business plan. It's something you should really have before starting operations. It'll give you goals to work toward and give you a path to follow instead of just "winging it."

HOW ABOUT YOU

What is your background in plumbing? How did you get your start, and how did it help you run the company you now have? Email me at editor@plumbermag.com. I'd love to hear your story.

Enjoy this issue! 📧

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CHANGING LIVES

4th Annual Community Plumbing Challenge Helps New Mexico Families

Last year Randy Lorge blogged regularly for *Plumber* magazine while he served as one of the coaches for the Community Plumbing Challenge team that traveled to Indonesia to provide some much-needed improvements to a village school's plumbing infrastructure. This year, the Community Plumbing Challenge was held in the United States for the first time to help families living on New Mexico's Navajo Indian Reservation. Lorge shares his experiences in this online exclusive. [plumbermag.com/featured](#)

PRO TIPS

Advice For Servicing Sewage Pumps

The term "sewage pump" is often used loosely among plumbers. Whether for your particular work, that means a sump pump, effluent pump or grinder pump, master plumber and regular contributor Anthony Pacilla has you covered. In this online exclusive, he provides troubleshooting advice about pumps and shares a story about a real-life situation he encountered.

[plumbermag.com/featured](#)



OVERHEARD ONLINE

"We can learn a lot from the misfortunes of the cost-cutting plumbing firms. Use the consistencies of their failures as a map of what not to do."

— *Don't Fall Into the Cost-Cutting Trap*

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RIISING TO THE CHALLENGE

New York Contractor Embraces the Toughest of Jobs

R.I.C. Plumbing of Lockport, New York, was featured in the November 2018 issue. In this online exclusive, you can read more about two of the company's past jobs that are prime examples of its willingness to take on any challenge in the name of quality customer service.

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ACHIEVING MILESTONES

Wisconsin businesswoman brings a different approach to the plumbing industry and sees her company grow steadily

By Ken Wysocky | Photography by Michael McLoone



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Jessie Cannizzaro and Adam Curtis (minority owner)
2011
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By several measures, Jessie Cannizzaro is an outlier in the plumbing world. For starters, she's a woman in a heavily male-dominated trade. In addition, she's technically a businesswoman first and a plumber second, having earned an undergraduate degree in business and a Master of Business Administration degree before she ever wielded a monkey wrench professionally.

Moreover, the co-owner of Milestone Plumbing in suburban Milwaukee, is also an instructor in a plumbing-apprenticeship program offered at a local community college, where she's quietly spreading a message to young would-be plumbers: Four-year college degrees aren't the only ticket to successful careers.

Ironically enough, Cannizzaro — the daughter of retired plumber Tom Cannizzaro — harbored zero aspirations to join the trade, which she now embraces so enthusiastically. And for someone who spent most of her life with no desire to follow in her father's footsteps, Cannizzaro has done well.

Since she established Milestone Plumbing in 2011 in the basement and garage of her home in Wauwatosa, the

company — which she co-owns with her husband, Adam Curtis — has grown to 12 employees and nine service vehicles. Furthermore, gross income rose approximately 55 percent from 2014 to 2017. And in an everything-comes-full-circle moment in 2013, she moved the business, which focuses on service and repairs and some remodeling projects, into the location once used by her father's company.

PERSONAL VICTORY

Cannizzaro's success story underscores the value of a business-minded approach to plumbing, especially when combined with an emphasis on customer satisfaction and investments in productivity-enhancing equipment and vehicles. It also reflects a personal victory of sorts — a rebuttal to everyone who ever told her a woman can't be a plumber. And that surprisingly enough included her father, she says.

"I love to do what people say can't be done," says Cannizzaro, a master plumber, explaining her motivation. "Even my dad told me the world isn't ready for a woman plumber. I think he did it more to protect me because people can be very harsh and cruel."

▶ Adam Langridge, master plumber, uses a Milwaukee Tool drill to install a fixture as he replaces a laundry faucet.



▼ Kevin Poppie installs shower fixtures at the job site of a bathroom remodeling project.



“But he’s very proud of me, even though he fought me on it and told me I was making a big mistake,” she continues. “Now he proudly wears Milestone T-shirts and a Milestone wool winter hat.”

“I love to do what people say can’t be done.”
Jessie Cannizzaro

Cannizzaro says many people ask her why she didn’t just take over her father’s business. The answer lies in a dynamic that’s probably familiar to many children that work in family-run businesses: Differing business philosophies. “We didn’t see eye to eye about certain things, so it quickly became apparent that if I wanted to build a business, I’d have to start from scratch,” Cannizzaro says. “I wanted to be more than just a one-man-with-a-van business.”

EARLY EXPOSURE

As one would expect, Cannizzaro got her first taste of plumbing as a child. As she puts it, she grew up around plumbing, but wasn’t at all interested in it. “On some days, I had no choice — I was told, ‘You’re going with Dad today,’” she recalls. “And if it was a pretty big project and I did a

good job, he’d take me to Toys R Us and let me pick out a Nintendo game as a reward. I didn’t see the value of it (as a career) until I was much older.”

Things changed when Cannizzaro was about 22 years old. While she was attending the University of Wisconsin-Milwaukee for her undergraduate degree and working full time for a local restaurant, her father suffered a stroke.

“I stopped working to help him out while still going to school,” she says. “I worked for a full year before I realized I truly enjoyed it — that I wasn’t just doing it to give him a hand. So I started my apprenticeship with him and moved to another company during my second year, where I finished my apprenticeship.”

While attending University of Wisconsin-Milwaukee to earn her MBA (which she received in 2008), Cannizzaro got the itch to run her own business. So she wrote up a business plan during 2009 and 2010, then established Milestone Plumbing in 2011. She received financial assistance from the Wisconsin Women’s Business Initiative Corp., a microlender for entrepreneurs who can’t qualify for traditional business loans from banks, she says.

To write the business plan, she took advantage of local free resources, such as the Entrepreneurial Training Program offered by the Wisconsin Small Business Development Center at University of Wisconsin-Milwaukee.

How valuable have the business degrees been to her business? While noting they're not a necessity to run a plumbing outfit, Cannizzaro says they've helped her approach the business with a different mindset than some plumbers.

"When I meet with a consultant or an accountant and they tell me they want me to do something a certain way, I understand why," she explains. "For example, job costing is a very tedious process, but I see how valuable it is because small mistakes over the course of, say, five years can result in losing a significant amount of money.

"So figuring out what our actual costs are versus what we quoted for a remodeling project, for example, can be a great learning experience for quoting the next job," she adds. "That's often the difference between finishing in the red or in the black."

PUTTING CUSTOMERS FIRST

Providing great service for customers also plays a key role in the company's success. Some of it is very elementary: showing up on time and calling customers back when they leave messages. Technicians wear shoe covers, use tarps and leave job sites cleaner than when they arrived.



▲ Luke Krueger moves the toilet into place as he installs it during a remodeling project.



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"I tell our guys that if they see Cheerios under the toe kick when you leave the space, pick them up," she says.

But customer service also comes in other forms, such as investing in good vehicles and equipment. Milestone Plumbing owns eight service vehicles: a Chevrolet Express 1500 van, two Ford E-250 Econoline vans, and five newer Ford Transits.

Cannizzaro says the company switched to Transits because they offer more headroom for technicians, as well as items such as water heaters, which can be stowed upright. That leaves extra floor space for important items such as drain cleaning machines that otherwise might have to be left behind, requiring a trip back to the shop if they're needed on short notice. That, in turn, provides a lower level of customer service, she says.

The Transits are outfitted with Masterack storage systems installed by Ultimate Truck & Car Accessories. All the trucks feature similar rack configurations so

technicians can easily work efficiently out of any truck if necessary. The Transits also include a convenient four-drawer unit from American Van Equipment that's installed across the cargo area, behind the cockpit bulkhead. They provide extra storage space that's compact and easy to access; technicians just open the side sliding door and pull out the long drawers, Cannizzaro says.

Technicians generally use Milwaukee Tool hand and power tools, along with some made by RIDGID. Other pieces of equipment include one RIDGID SeeSnake pipeline inspection camera; four ladder racks made by Topper Mfg.; electronic deadbolt systems made by Cargolock; two K-1500 drain machines, seven K-45 drum machines, and two K-50 drain machines, all made by RIDGID; three RIDGID pipe-threading machines; a Makita U.S.A. HM1810 concrete breaker; a K300 Husqvarna Construction Products concrete wet-saw; and a Milwaukee Tool SDS-Max demolition hammer.

Continued ►

A teachable moment: Plumber trades in tools for textbooks

Over the years, Jessie Cannizzaro has observed a concerning trend: High school students shun the trades and instead go into deep debt to attend four-year colleges — and earn degrees that lead to low-paying jobs. As a result, plumbing firms and other trade-related businesses can't find enough qualified employees, which hampers their ability to grow even in a thriving economy.

No longer content to stand on the sidelines, the owner of Milestone Plumbing in suburban Milwaukee, Wisconsin, decided to do her part: Teach plumbing-apprenticeship classes sponsored by the Associated Builders and Contractors of Wisconsin and held at the Waukesha County Technical College in suburban Milwaukee. She teaches one four-hour class a week each semester, instructing a total of 36 students.

Patrick O'Neill, a former plumber and the lead plumbing instructor at Waukesha County Technical College, asked Cannizzaro to join the teaching staff because of her unique skill set, which combines plumbing skills with business acumen. Her female perspective is a valuable bonus, he adds, noting that women make up only an estimated 2 percent of all plumbers nationwide.

"Instructors don't normally come from the business sector," O'Neill explains. "They're usually journeyman — hands-on guys. So putting someone like her in front of

apprentices gives them a unique opportunity to be taught by someone who's a rarity in our trade — a female plumber with business degrees. No one I know can hold a candle to what she has on the wall (in terms of diplomas and credentials). And she not only has those degrees, she can back them up, too. Her knowledge of the whole scope of plumbing is rock solid."

Isn't teaching a big time-commitment for a small-business owner who already works megahours? "Yes," she admits. "But I truly believe we need to do something different and break the stereotypes people have of the trades. We need to go into high schools and tell students how great the trades are and that they should consider them as a career."

"Guidance counselors and parents need to stop presenting the trades only as an alternative for kids who can't cut college," she adds. "They need to realize that guys like our apprentices (at Milestone Plumbing) get paid while they're being trained on the job, which is better than graduating from college with massive debt and a low-paying job."

Moreover, more than 300 people expressed interest in the apprenticeship program, but there aren't enough teachers to handle that many students. So Cannizzaro felt she had to step up to the plate.



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UNCONVENTIONAL JOB INTERVIEWS

Success also requires building a good team of employees. “This is a very team-oriented company,” Cannizzaro emphasizes. “We wouldn’t be where we are without being team-oriented and without great employees.” As such, hiring people who will thrive in a team environment is critical.

To accomplish this, Cannizzaro uses an unconventional group approach to interviewing job candidates. “I learned from a business consultant that group interviews allow you to see different things, like how applicants interact with their fellow applicants,” she explains. “It helps us spot people who want to work and will go the extra mile for our customers, as well as understand our values.”

Here’s how it works: After narrowing applicants down to a reasonably sized group, Cannizzaro, Curtis, Penny Cox (general manager), Kevin Poppie (service manager) and Alex Roloff (first-year apprentice) participate in about a one-hour-long presentation about the company and its values, culture and mission. “The whole team takes part in the process so that one person doesn’t do all the talking,” Cannizzaro says.

Then the candidates must participate in a group discussion. The topic is a magazine article the candidates receive ahead of time; it talks about business values and going the extra mile for customers.

“We ask them questions about the article and talk about the three big takeaways in it,” she explains. “It breaks the traditional one-on-one interview process — gives us a snapshot of who this person is and whether they’ll work well as a team. Maybe they have an attitude and don’t play well with others. Or maybe they didn’t read the article and are totally unprepared.”

“So figuring out what our actual costs are versus what we quoted for a remodeling project, for example, can be a great learning experience for quoting the next job. That’s often the difference between finishing in the red or in the black.”

Jessie Cannizzaro



▲ The team of Milestone Plumbing, pictured here in their shop with one of their new Ford Transit vans, includes Jessie Cannizzaro, Kevin Poppie, Charlie Earle, Adam Langridge, Don Buchta, Bob LaFever, Luke Krueger, Penny Cox, Katie Glynn, Alex Roloff, Devin Snyder and Adam Curtis.

Candidates aren’t told any of the details about the interview, just that they must attend a “company introduction.” Why no advance notice? “They have to be able to handle pressure,” Cannizzaro says. “They’re going to have to keep cool when something goes wrong and a homeowner is right there. Some people say what we do is mean, but I say it’s just (simulating) the real world.”

INTO THE TRUCK

After the group presentation/interview, which typically takes anywhere from one to 1 1/2 hours, the candidates do individual, two- to four-hour ride-alongs with veteran technicians who later provide the management team with feedback. “It’s a big commitment for us (to hire someone) because we pay for their apprenticeships,” she says, explaining the reason for the intense interview process. “They have to serve one year as a pre-apprentice, and if they do a good job, they get to go into the five-year apprenticeship program.”

There’s one final step: After the management team compares notes, they pick the finalists, who later attend individual interviews — this time just with Cannizzaro and Cox.

The group interviews offer another advantage in that they save time; it’s quicker to interview, say, seven people in a group setting than to do seven individual interviews. Are the results any better than a traditional interview process? If they are, they’re hard to quantify, Cannizzaro reports.

“But what I do know is that they understand how serious the opportunity is,” she points out. “And sometimes applicants who get turned away will reapply or applicants will send us a card or an email telling us that they really want the job. While I can’t quantify it, we believe this

Continued ▶

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system creates stronger buy-in. They realize they're buying into a career, not just a job."

Cannizzaro also points out that Milestone Plumbing enjoys low employee turnover; out of four apprentices, none have left the company. She also strives to promote from within. A good example is Poppie, a journeyman plumber whom she recently promoted to service manager. Ironically, Poppie trained Cannizzaro during her apprenticeship at another company.

"We've flip-flopped a little bit," she says with a laugh. "He's one of the most knowledgeable plumbers I've ever worked with, and he understands my vision and where we want to go. He's my right-hand man and is helping us take the company further."


GROWTH ON THE HORIZON

Cannizzaro also is proud of the impact the business has on her employees' lives. "I look at each of our apprentices and the paths they're on; they're going to make good money and have great lives and great careers," she says. "And Milestone will be a big part of that."

Looking ahead, Cannizzaro says her goal is continued growth, but in a measured and deliberate fashion. That will enable the company to stay true to its motto: "Quality conscious, customer focused, every job, every day." One of her long-term goals — having employees eventually run the company after she retires — hinges on fulfilling that motto.

"I want this company to outlast me, with employees that uphold the same values we started it with," she says.

Slow, measured growth will help her achieve that goal, Cannizzaro notes. "If you try to force growing too fast, you start to give up the culture of our company's values and job quality decreases," she explains. "The work is out there — we can always find more work. But maintaining the quality of work will always be more important than the number of employees we have or how many trucks we run.

"We're all very proud of what we've been able to build," she concludes. "I recently got introduced to a homeowner by a general contractor who said, 'This is my plumber.' That's what we want to hear. We don't want to be just the lowest-bid contractor. It's all about relationships, and that's what we strive to build." 

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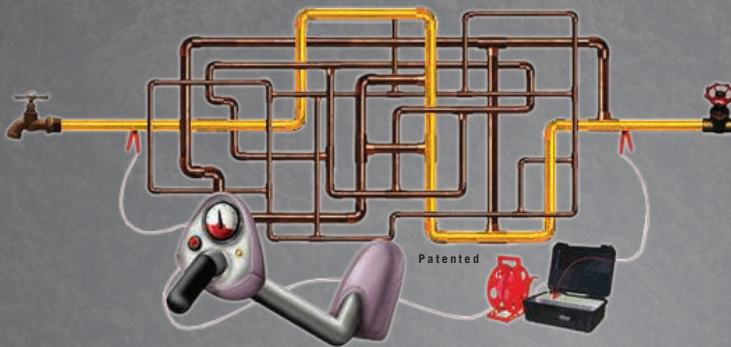
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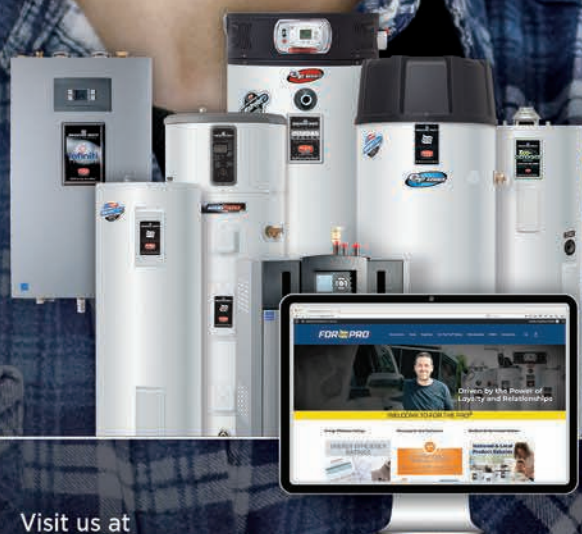
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FOR THE PRO



No More Pot and Brush

Tool takes the mess out of applying flux while minimizing contamination, waste and failed solder joints **By Ken Wysocky**

It's uncanny how flux seems to attract bits of debris. But that's no longer an issue for plumber John Thompson, thanks to the Fluxuator, a tool that not only protects flux from contamination, but applies the correct amount to pipes and fittings every time.

Thompson, who owns Thompson Family Plumbing & Rooter in Hesperia, California, has been using the Fluxuator for almost a year and says it pays for itself by reducing solder-joint failures that stem from dirty flux.

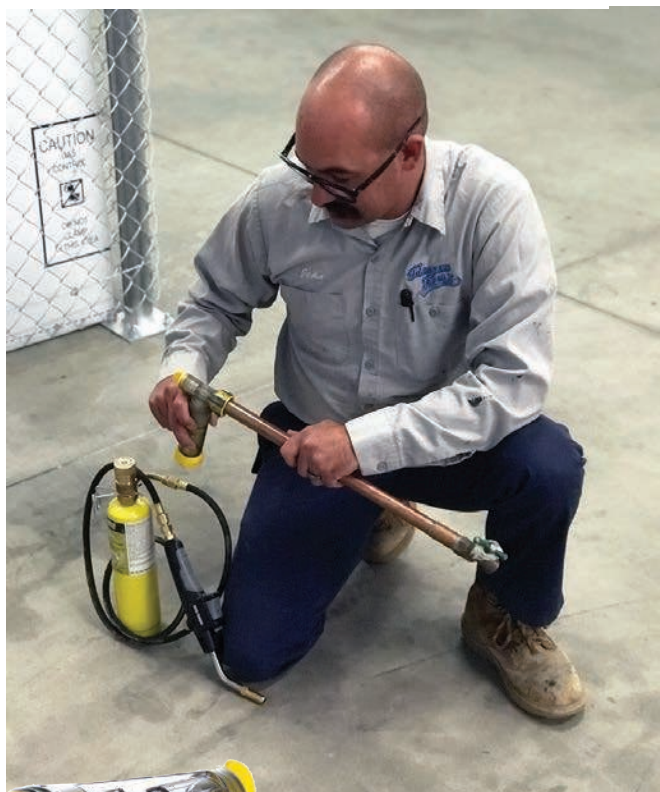
"We own three Fluxuators," says Thompson, who established the company in 2013. The firm employs 11 people and runs seven service trucks, mostly Chevrolet and Ford cargo vans and box vans with Knapheide bodies. "It's a very useful tool. I'm a very obsessive-compulsive kind of guy when it comes to soldering joints, and I like to make sure things are clean.

"I also don't have time for joint failures," he adds. "I have time to get to a job, fix it once and be done. I have other customers that need me. So it's great to have a tool that helps my right-now customers get their water on faster (with no joint failures). That's the bottom line."

LEARNING ABOUT THE TOOL


Thompson first heard about the Fluxuator, which is made in the United Kingdom, through an Instagram feed called World Plumbers. Designed by plumber Dominic Fowls and a friend, Andrew Zacharias, the Fluxuator is made of durable PET plastic.

The tool provides even, 360-degree application of flux to pipes. It consists of two components: a small, ergonomically designed, clear-plastic canister that holds 75 grams (about 2.65 ounces) of neutral (pH 7) flux — enough for roughly 500 applications — and a dosing-head tube that screws onto the canister.



▲ John Thompson, owner of Thompson Family Plumbing & Rooter in Hesperia, California, assembles the Fluxuator flux dispenser on a job site near Los Angeles. His company owns three of the devices, which reduce the chance for joint failures due to contaminated flux. (Photos courtesy of Thompson Family Plumbing & Rooter)

▲ The Fluxuator, made of PET plastic, holds 75 grams/2.65 ounces of flux. It is used for a cleaner, more efficient application of flux.



Hesperia, CA

COMPANY	Thompson Family Plumbing & Rooter, Hesperia, California
TOOL	Fluxuator flux dispenser
FUNCTION	Clean, efficient application of flux
FEATURES	PET plastic construction; holds 75 grams/2.65 ounces of flux; dosing head contains flux brushes in a port protected from dirt by a screw-on cap; includes a removable brush for fluxing fittings and applying flux in places where Fluxuator won't fit
COST	About \$20, depending on currency-exchange rates
WEBSITE	www.thompsonfamilyplumbing.com
FLUXUATOR INFO	web - www.fluxuator.co.uk email - cs@fluxuator.com

The dosing head has a port on one end with four small brushes inside it; the other end holds a removable brush for applying flux to the inside of fittings or on pipes in hard-to-access areas where the Fluxuator won't fit. A protective screw-on cap on each end protects the brush port and brush applicator from contamination when not in use.

HOW IT WORKS

Twisting a cap on the bottom of the canister raises a plunger that pushes flux up and into the dosing-head port, filling the brushes with flux. Then a plumber just inserts a pipe into the port, gives the tool a 90-degree twist, and removes it from the pipe, leaving behind an even application of flux around the exterior circumference of the pipe.

"It's very easy to use," Thompson comments. "It applies the flux at the same depth as the fittings you're pushing the pipe into, so you're not overfluxing the pipe and wasting flux. And if the brushes happen to get dirty, you can flush the port with water to clean them."

The Fluxuator comes in two sizes: One for 1/2-inch-diameter pipes and one for 3/4-inch pipes. There's also a model that adapts to both pipe diameters. When the flux

runs out, plumbers can either buy a refill canister or refill it with their flux of choice, Thompson says.

"I know plumbers are very particular about the flux they use, so if you don't like the flux it comes with, you can refill it with the kind you prefer," he notes. "All you have to do is remove the canister and wash it out because you don't want to mix the different chemicals from two different kinds of flux."

AN EFFICIENT ADDITION


Using the Fluxuator is much more efficient than carrying around a flux pot and a brush. "The brush always gets dirty because you're constantly setting it down somewhere," says Thompson, whose company primarily does service and repair plumbing, drain cleaning, and light new construction in and around Los Angeles and San Bernardino County to the northeast.

"I know plumbers are very particular about the flux they use, so if you don't like the flux it comes with, you can refill it with the kind you prefer."

John Thompson

"Applying flux the traditional way can be a pain in the rear, especially if you're soldering in awkward positions, like up on a ladder, where there never seems to be enough room to keep your tote, flux and brush all in the same place," he continues. "I usually tie a rope to the Fluxuator and hang it by me, then I never have to worry about dropping it."

And while it doesn't save Thompson a ton of time in terms of flux application, it does reduce the chances for joint failures due to contaminated flux, which is a big timesaver in the long run. Moreover, using the Fluxuator — which costs about \$20, depending on the exchange rate for the English pound (refill canisters cost around \$15.50) — is more efficient because there's no excess flux to wipe off. Plus, solder joints look neater, he adds.

"I've totally fallen in love with the Fluxuator," he says. "I consider it a tool — a great piece of equipment to have on our trucks." 

Drafting a Plan

Business plans keep new owners on track in their goal of developing a successful company, but it may require some help to get it started

By Joan Koehne

The circumstances are perfect: You're ready to make a major career move.

You've decided to open your own plumbing business. You have an idea of how to pull it off and the confidence to get started. Now you need a well-conceived business plan to set you on the right path.

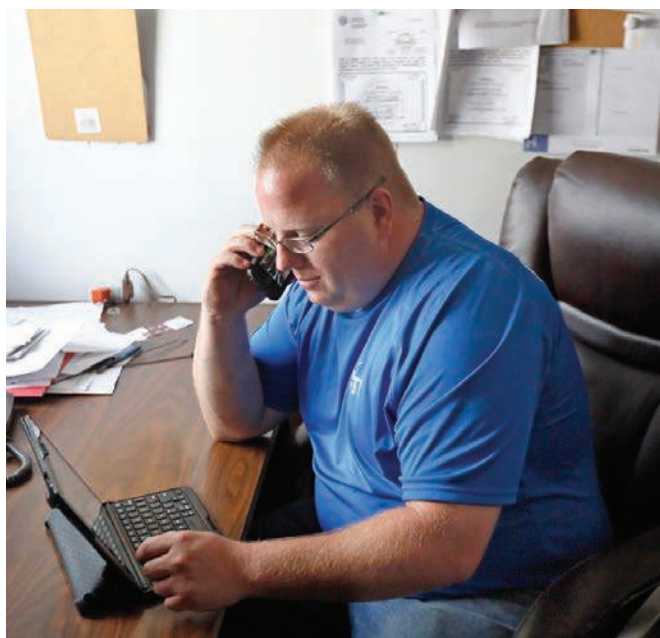
Dave Kaster, principal at Fidelis LLC, has written over a thousand business plans for clients at his business advisory practice in Green Bay, Wisconsin. Kaster says clients need just two things before writing a business plan. "They need an idea to start with, and they need the time to explore the idea," he says.

“You absolutely have to start with the end in mind. Let's say you want to run a plumbing business from the ground up and run it for 20 years. You have to determine how you want to get out.”

Dave Kaster

You start with a concept of how to generate money for a particular service or product, and then you make sure that concept passes an evaluation on various levels. If you're ready to write a business plan, you already know what you want to do. Now you just need to flesh out your ideas by answering five questions: who, what, when, where and how?

"Who does what? What are you trying to do? When do you do it? Where and how do you do it? But the biggest question is the why," Kaster says. "Once you decide to do a business plan, that's what I'd start with: Why are you doing it? Because that gives you the end result."



▲ Taking time to sit down and look over your options and talk to others in the industry is a good place to start when drafting a business plan. (Photography by Amy Voigt)

LOOKING TO THE END

Oftentimes, the most ignored piece in any business plan is the vision for the company.

"You absolutely have to start with the end in mind," Kaster says. The first step is understanding the end goal. Decide what you want out of the business, and work backward from there.

"Let's say you want to run a plumbing business from the ground up and run it for 20 years. You have to determine how you want to get out," he says. If you plan to pass the business to your kids, it makes sense to invest in a permanent building, expensive equipment and a long-term marketing campaign.

Continued ►

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It's a different mindset if you plan to be in business for 5-10 years, retire and let the company fade away.

"Define your exit strategy and what your ultimate goal is — to pass down to the kids, to sell, whatever — so any investors know exactly the endpoint or determination when and how to get out," Kaster says.

DOING THE RESEARCH

To flesh out your ideas, it's important to do some research. Talking to other plumbers is a good first step. Ask them how and why they got started and the difficulties they faced. Kaster suggests contacting a business consultant or marketing specialist to help put together your business plan.

"Picture a good time frame, 5-10 years down the road, and determine what you want your business to look like," he says. "You need a target to start shooting arrows at."

One of the first things to decide is what type of plumbing to do: repair work, residential, commercial, working as a subcontractor on new construction, or a combination of these. From experience, you know what you're good at; a business plan puts it all down on paper.

THE THREE ELEMENTS

One of the elements of a business plan is a marketing strategy. You'll need to define who your clients will be and how to reach them.

"Someone could say, I'll just advertise on social media," Kaster says. "Who's going to do that? I haven't seen a business owner yet who's done that regularly, consistently and correctly. So, you need someone from the outside to really dive in."

A second element to strategize is operations. Determine how to manage your company in an effective way. "Working at a business is different than running a business," he says. "You have to think of things at a different level. You're not only affecting yourself, you're affecting the entire business. Clients. Suppliers. Every decision you make has ripple effects."

A third element to consider is financing. Decide how to finance your startup and how to use the money to grow your business.

"If you're going to family finance it, you owe it to your family to write a plan they can keep you accountable to," Kaster says. "You need to tell them 'I'm going to keep you safe by following through with these plans.'"

If you seek outside funding, the business plan will have a different emphasis. Investors will require detailed market research, financial projections and operational methods to project the rate of return on investment. Bankers will need proof of cash flow to pay back a loan.

THE DIFFERENT AUDIENCES


In general, business plans are written for a particular purpose and for a particular audience. The first audience is yourself.

"You have to go step by step and prove it out," Kaster says. "Make sure everything makes sense. It's always good to solve a problem before a problem comes up, so it's good to identify what the problems may be."

“Working at a business is different than running a business. You have to think of things at a different level. You're not only affecting yourself, you're affecting the entire business. Clients. Suppliers. Every decision you make has ripple effects.”

Dave Kaster

The second audience is the money stream. Solid business plans include carefully prepared financial projections, budgets and cost analyses. The average business plan is 40-50 typed pages, filled with charts, concepts and objectives.

"The best function of a business plan is to give you the end goal in mind and give you a starting point to get you through your first 60 days or so," Kaster says. The plan serves as a blueprint to identify obstacles and opportunities before you fully commit to the career move that will change your life. 

Editor's Note

This is the first in a series of business stories focused on helping plumbers start their own company. Throughout the year, we'll offer different tips geared toward those looking at starting their own operation. If you have any suggestions, email us at editor@plumbermag.com.

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Cold No More

Heated workwear category growing in trade industries as a way to keep workers safe, and increase productivity *By Jared Raney*

For many contractors in North America, working in the cold is a way of life. It's not fun, but it's something that needs to be done.

"For a better part of the year, we contend with the cold weather," says Eric Aune, co-owner of Mechanical Hub and owner of Aune Plumbing in central Minnesota. "It's about seven months of the year."

Aune has made working in the cold a little more bearable for his workers by offering cold-weather gear to them. Not just regular jackets and gloves, but heated workwear from Milwaukee Tool, a Wisconsin manufacturer.

A START IN COLD WEATHER

Milwaukee Tool offers a series of jackets, hoodies and vests. Other manufacturers like DeWALT Tool and Ergodyne also offer heated jackets and hoodies.

"We started back in 2010 with a singular red, heated jacket, really not knowing what we were stumbling into," says Kaue Cavalcante, product category manager for lifestyle products with Milwaukee Tool. "Since then, we've gone through many different generations of heating technology."

The expansion of construction-grade heated clothing is an extrapolation from the broader market of civilian heated clothing, but the caliber of durability sets these products apart.

“We will find ourselves on job sites where there's no heat — there's no break from the elements — and one of the hardest things to get over is just your body feeling cold.”

Eric Aune



▲ In this illustration photo, contractors are wearing the heated jackets and sweaters available from Milwaukee Tool. This gear, and other similar gear from other manufactures, are changing how contractors can work in the cold climates. (Photo courtesy Milwaukee Tool)

"If you look at heated gear in North America today, there are many, many competitors in this space," Cavalcante says. "I think the appreciation for how durable and well-built these garments are — that's really what appeals to our audience doing work on job sites."

Milwaukee Tool's clothing is powered by M12 REDLITHIUM battery technology, using carbon fiber heating elements to create and distribute heat to the chest, back and front pockets. This year, the manufacturer also added a new Quick-Heat function that helps deliver heat faster than before, fully heating up the jacket in 2.5 minutes.

Cavalcante notes that company officials are constantly going on research trips all over the country in order to understand what customers need and what users are currently frustrated with.

DURABLE GEAR

Aune's favorite piece of heated clothing is the hoodie, for its flexibility. The hoodie has a waffle-weave thermal lining to help keep the heat in.

“If I can keep them warmer, then I feel like they’re going to be more safe. They’re not going to make mistakes that might cause personal harm.”

Eric Aune

“The sweatshirts take probably the biggest beating because they’ll be worn in the fall and the spring, and then also through the winter,” Aune says. “I wear my sweatshirt as a coat probably three-quarters of the time, so I’d say that they take a lot more abuse than I would have imagined. You’ve got these heating elements inside, and you just think that it’s not something that’s going to be able to take abuse but I would say that’s not true at all.”

The heated gear can be washed like normal clothes after removing the battery, which has its own pocket and simple hookup. After about three years, the equipment Aune bought for his team is still holding up, despite consistent day-to-day use, though he’s considering purchasing a new set for his guys.

“They’ve got a three-in-one style,” Aune says. “It’s about double the cost, but it’ll be worth it because you’ve got a sweatshirt, vest and outer parka-style coat, which is probably more suitable for a wider range of temperatures.”

The jackets and vests are equipped with reinforced high-wear zones to protect from abrasion and tears, feature polyester insulation that keeps heat in but doesn’t add bulk, and are wind- and water-resistant.

SAFETY AND PRODUCTIVITY

Heated gear isn’t cheap, with a price tag often at least double that of similar nonheated garments. For example, the heated hoodie is around \$100 and the jacket is about \$150 from most dealers. They say you can’t put a price on comfort, and Aune says for contractors who deal with cold, that saying holds true.

“It brings higher productivity,” Aune says. “We will find ourselves on job sites where there’s no heat — there’s no break from the elements — and one of the hardest things to get over is just your body feeling cold. A lot of what we do can be done in those cold temperatures; the materials

we’re using will allow for it, but the limitations are comfort. If we can be more comfortable, then we can produce more through the day.”

Aune adds that it’s about safety as well, feeling more confident with some of his workers who may not want to take a break to warm up.

“If I can keep them warmer, then I feel like they’re going to be more safe,” Aune says. “They’re not going to make mistakes that might cause personal harm.”

This year, Milwaukee Tool made its first foray into heated accessories with a heated work glove complement to its line of gear, and officials say there’s more ahead for this segment of the industry.

“We’re not going to slow down in this category at all,” Cavalcante says. “If anything, you’re going to see a ton more solutions and innovation in the years to come.” **PI**

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It's Show Time

Get the most out of your attendance at the AHR Expo in Atlanta

By Nicole Bush

The 2019 AHR Expo is the industry's largest HVACR event, hosting thousands of industry professionals and more than 2,100 exhibiting companies each year. The 2019 show returns to Atlanta for the first time since 2001, with show dates set for Jan. 14-16.

Spread over two halls, the AHR Expo will be held at the Georgia World Congress Center and is poised to be an eventful year for HVACR with technological advancements in the Internet of Things and automation. Existing exhibitors are set to return with new debuts and add-ons to existing products and services, and many new exhibitors are filtering in from crossover markets helping to advance the HVACR industry.

With so much to see, use these tips to take full advantage of your time at the show.

BE INTENTIONAL

Attending a trade show can be of tremendous value to your professional growth, as well as a great way to guide your company's progress in the industry. But getting the most out of your experience means more than just attending: It's important to make a plan and be intentional. You can do this by preparing in the months leading up to the show; set goals for yourself as an attendee, or for your company if you're attending as a representative. Make a list of all the things you'd like to take away and areas of specific interest for meeting your goals.



◀ The 2019 AHR Expo will be held in Atlanta from Jan. 14-16, with over 2,100 exhibiting this year.

Once you have goals in mind, make a specific plan for *each* day of the show you plan to attend. Use the Map Your Show planner tool on the AHR Expo website to help guide you. The show planner lets you save exhibitor profiles, calendar entries and any agenda items you may need as a quick reference. You can even add personal events and see a full listing of education and speaker sessions that can help you make the best plan to meet all the goals on your list.

MAKE A PLAN

Setting goals has no purpose if you don't follow through on plans that help you meet them. Spend some time on the show website exploring exhibitors to pinpoint those

find real-time updates of announcements and tips that may assist in your planning. It's also a good idea to post on your personal or company social media pages while at the show; be sure to use show-related hashtags (#AHRexpo, #HVACR or specific names of exhibiting companies or speakers) so others in attendance can follow your experience and stay connected.

You should also engage in conversation with your current customers prior to the show to lay the foundation for mutual expectations. Trade shows are a vibrant atmosphere to meet customers in a supportive environment. This is a great way to open the conversation to new partnerships or ways you can enhance your existing relationships.

The show's education program amasses over 120 sessions featuring the latest industry trends and best practices and professionals from the industry's leading HVACR organizations.

that provide answers to your goals. Once you've compiled a list of exhibitors you'd like to connect with, spend some time drafting questions that help you get the answers you're looking for.

Make sure to explore the AHR Expo's education series and take advantage of sessions and classes that further your expertise. The show's education program amasses over 120 sessions featuring the latest industry trends and best practices and professionals from the industry's leading HVACR organizations. This is a valuable opportunity to hear firsthand what's in the industry pipeline for the year ahead. This is a great way to uncover new technologies for your company or to discover new partnership opportunities or potential leads.

In addition to the free sessions, there will be many opportunities for continuing education. All courses hosted in this series are approved for continuing education units and are a great way to maintain P.E. licensure. For these sessions, advanced registration and fee payment are required prior to the show.


ENGAGE IN CONVERSATIONS

If you're not doing so already, make sure you're following the AHR Expo social media pages. Here you'll

TIPS FOR SHOW DAYS

Pick up a show directory when you arrive. The directory is organized with a detailed breakdown of product categories and ordered by booth number. This will help you stay on schedule with your itinerary and maximize your time at each targeted booth. This simple tip can save you a

surprising amount of time. You can also pick up a paper floor plan that can be used to mark up with the booths you want to visit. This way you can stay on track without missing opportunities, and stop in any booths on your path that may be of interest.

Take advantage of less-busy times on the show floor. Typically this is the later afternoon or on Wednesday, the last day of the show. During these times, you can avoid crowds that slow down your pace when navigating from booth to booth. What's more, this is valuable time spent with experts at each booth since there will be less competition for their time and you're less likely to waste time waiting for a representative to be available to answer questions. 



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Product Preview

Caleffi Hydronic Solutions PLUMBVENT automatic air vent

The Caleffi PLUMBVENT is a space-saving, low-lead automatic air vent. It is designed and manufactured specifically to vent air from water at high points in plumbing and domestic hot water system piping. Common applications include air elimination on domestic hot water storage tanks, at the top of plumbing risers and near the inlet of a hot water recirculation pump to reduce the potential for air lock. It complies with NSF/ANSI 372, Drinking Water System Components – Lead Content Reduction of Lead in Drinking Water Act, California Health and Safety Code 116875 S.3874 (AB1953), and Vermont S152. At the AHR Expo, enjoy a complimentary cup of *Coffee with Caleffi* and pick up the latest copy of *idronics* #24 and the 2019 Caleffi Plumbing and Hydronics Catalog.

414-238-2360; www.caleffi.com. Booth B4161.



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The Infiniti K Series of tankless water heaters is the smarter way to go tankless. The Infiniti K uses STEADISSET Technology to keep water temperature consistent and virtually eliminate the “cold water sandwich” with no internal buffer tank. It features SRT (Scale Reduction Technology) for better performance, longer operational life, and lower maintenance costs versus conventional tankless. Infiniti K has best-in-class venting length for both 2- or 3-inch PVC or polypropylene up to 280 feet combined. The series delivers efficiency up to .96 UEF, which helps maximize the financial benefits when choosing tankless.

800-523-2931; www.bradfordwhite.com.infinitikseries.com. Booth C6463.



FastPIPE Estimating Software

FastPIPE plumbing and mechanical estimating software program published by FastEST, Inc. is designed to be fast, accurate, and easy-to-use. A brand-new version will be on display at this year's Expo! FastPIPE comes standard with a full material pricing and labor database, and digital plans can be easily imported right into the program for convenient on-screen takeoff. The program includes customer support, and is backed by a 60-day money-back guarantee, with both purchase and lease options available.

800-828-7108; www.fastest-inc.com. Booth B4660.



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The M18 FUEL SUPER SAWZALL Recip Saw is the first cordless solution of its kind, generating the power of a 15-amp corded recip saw. When equipped with Milwaukee's new M18 REDLITHIUM HIGH OUTPUT HD12.0 battery, the recip saw can power through up to 150 cuts on 2-by-12-inch lumber on just one charge, eliminating the hassle of cords or constant switching-out of multiple battery packs. The saw also touts the same corded features that made its predecessors famous, such as selectable orbital action, 1 1/4-inch stroke length, 3000 SPM and a five-speed setting dial.

800-729-3878; www.milwaukeetool.com; Booth C6841.



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888-342-5753; www.sjerhombus.com. Booth B4072.



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Emergency Situation: New Sewer Line Needed Stat

Texas contractor installs new sewer line at hospital using a static pipe bursting system in just three weeks *By Ken Wysocky*

No-DigTec has tackled challenging jobs throughout its history, but one job in fall 2003 proved to be unusually more challenging for the contractor.

The Dallas-based contractor was hired to replace 200 feet of a collapsed 6-inch sewer line running underneath the Children's Medical Center of Dallas.

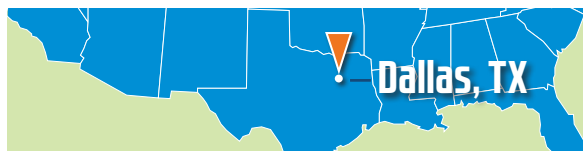
Faced with a tight workspace and deadline, No-DigTec decided to tackle the job using pipe bursting. Crews finished the work in just three weeks.

TIGHT SPACE AND TIME

The main challenge was accessibility; the hospital's central outdoor courtyard offered the best access to the collapsed line, but its tight, narrow confines made it impossible to bring in conventional heavy equipment — except by helicopter, which wasn't an option because of the intense noise it would generate. Fortunately, crews were able to hand-carry No-DigTec's lightweight, collapsible and portable equipment into the courtyard.

But the project took on added drama because in one month (Oct. 12, to be exact), craniofacial surgeons at the hospital were scheduled to separate conjoined, 2-year-old Egyptian twins Ahmed and Mohamed Ibrahim. The high-profile operation was attracting worldwide attention, and a press conference to update a large media contingent was going to be held in the same courtyard where the work was occurring.

The short timeline required No-DigTec crews to work around the clock for weeks. Crews first removed the courtyard landscaping, then hand-dug two 20-foot-deep pits in heavily compacted soil because there was no way to bring in excavation equipment. Furthermore, the pits required shoring, which took even more time. And because there was no room for an excavator, workers had to instead build a gantry to hold a 1-ton electric lift that removed soil from the pit as workers dug deeper and deeper, Newell explains.



PROJECT Replacing a sewer line at the Children's Medical Center of Dallas

CUSTOMER City of Dallas

CONTRACTOR No-DigTec; Dallas

EQUIPMENT Pipe bursting rigs from HammerHead Trenchless, 800-331-6653, www.hammerheadtrenchless.com

RESULTS The project took three weeks to complete, and workers finished about one week before the deadline. No-DigTec used a static pipe bursting system that was lowered into the pit via the electric lift. The static system was used because it can punch a length of interconnected metal rods through collapsed lines.

"It was a very labor-intensive process," says John Newell, the owner of the company. "On a stress scale from one to 10, this job was every bit an eight or a nine. There was nothing easy about it. But we got it done."

BURSTING THE PIPE

No-DigTec used a static pipe bursting system from HammerHead Trenchless that was lowered into the pit via the electric lift. The static system was used because it

“ On a stress scale from one to 10, this job was every bit an eight or a nine. There was nothing easy about it. But we got it done.”

John Newell


can punch a length of interconnected metal rods through collapsed lines. Then those rods get connected to an expander head on the other end of the project. The rig then uses the rods to pull the expander head — with the new pipe connected to it — back through the space vacated by the fractured host pipe.

No-DigTec does both pneumatic and static pipe bursting. The former method is used primarily for replacing gravity-feed pipes and the latter mainly for replacing pressurized pipes. Pneumatic bursting relies on a percussion hammer action to help the expander head break the host pipe. A winch located at ground level maintains constant tension on the bursting head via a thick metal cable. In static pipe bursting, a downhole unit pulls the expander head through the host pipe with a series of interconnected rods.

Pipe bursting offers many advantages compared to open-cut installations. First and foremost, the new pipe follows the path of the host pipe, so there's rarely a problem with hitting other kinds of lines. Other advantages include:

- About 85 percent less excavation required. (The process still requires some excavation — an insertion pit on one end and a receiving pit on the other, plus pits for service reconnections.)
- Significantly faster and more cost-effective installations.
- Minimal chance of damage to landscapes and things such as trees, patios, buildings and so forth.
- The ability to upsize pipes for additional flow capacity, sometimes up to five times larger than the host pipe's diameter.
- No long-term lane/road closures.
- Less carbon dioxide emissions from excavation equipment and hauling materials.

PROJECT COMPLETED

The project took three weeks to complete, and workers finished about one week before the 34-hour-long surgery took place, Newell says. Both operations were a complete success. 



▲ John Newell, owner of No-DigTec in Dallas, stands next to his company's New Holland backhoe loader.

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Erik Gunn

How Will Tax Reforms Impact Your Business?

If you haven't talked to your accountant about new federal tax rules, make an appointment to do necessary adjustments **By Erik Gunn**

As the new year begins, once again it's time to put your books in order for the tax season.

And with the sweeping federal tax bill Congress passed and President Donald Trump signed late 2017, there may be some changes to your routine for your 2018 federal taxes.

The new law has implications both for your business and your personal finances, points out Gregory J. Sell, tax attorney at the Milwaukee business law firm Davis & Kuelthau.

As always, this column is no substitute for consulting with your financial advisor, who can give you guidance based on your specific circumstances. But when the time comes to have that conversation, here are some things to keep in mind.

PASS-THROUGH INCOME

Let's talk about the effects on business first — although, as you'll see, they might show up on your personal tax return too.

We assume that your business is either formally incorporated, probably as a limited liability corporation or an S-corporation, or possibly set up as a partnership.

As a partnership, a sole proprietorship, or an S-corporation, your business is what is commonly called a "pass-through" entity. For tax purposes, the income flows entirely through to the owner, and the tax liabilities are factored into your overall personal tax filing.

Under the previous law, the top income tax rate business owners paid on their business-related earnings was 39.6 percent. The new law sets the top income tax rate at 37 percent. In addition, it provides a deduction for the taxable portion of the business income of 20 percent.

That deduction, Sell explains, has other potential

calculation limits phasing in when taxable income exceeds \$315,000 for joint returns and \$157,500 for all others. (And if taxable income exceeds \$415,000 for joint returns and \$207,500 for all others, specified service professions, including lawyers, doctors, accountants, and others, are denied the deduction entirely.)

Another important thing to remember is that the deduction applies only for income tax purposes, Sell points out. It doesn't affect how other income-related liabilities — such as Social Security and Medicare tax — are calculated.

CORPORATE QUESTIONS

The net effect of the lower pass-through tax rate under the new law puts the overall rate for their income at about 30 percent, Sell explains. While that's certainly lower than they enjoyed up to now, consider that the old-time traditional C-corporation — usually associated with much bigger companies — got an even bigger break. Their top tax rate, which had been 35 percent, dropped to 21 percent, Sell points out.

With that change, "being a C-corporation is more attractive than it used to be," Sell acknowledges. "Some S-corporations are thinking of switching to becoming C-corporations."

Sell cautions that will be more complicated and require careful evaluation to decide whether it's right for you.

First of all, it's simply too late to do that for 2018, he says. If you might want to consider that for this year, you will need to start exploring the idea right now, whether in the end you want to go through with that change or not.

IRS rules allow such corporate-classification changes only in the first 2 1/2 months of the new year, according to Sell. That means you need to study it now, and you'll need to get it done before the middle of March. That may not be

Continued ▶

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anywhere near enough time to think through all of the implications of such a change and whether it's really best for your business in the long run.

One reason to look more closely at such a conversion might be if you are contemplating selling your business in the near future.

Sell points out that the complexity of the process and the need to carefully examine all potential ramifications argues against making a hasty decision. Not only that, but once you make such a change, you're stuck with it for at least five years under federal regulations.

In short, this is definitely a question you don't want to consider without a detailed conversation with your business financial and legal advisors.

FASTER BUSINESS DEDUCTIONS

Another change in the new federal law may affect how you think about equipment purchases, Sell observes. Simply put, new provisions make it even easier for you to realize big tax breaks faster when you make new capital expenditures.

The main benefit is that bonus depreciation rules under the new law let you deduct 100 percent of the expense right away — instead of 50 percent under the old law — rather than spread the depreciation deduction out over time.

Changes to Section 179 raise the limit on capital expenses that can be deducted under that portion of the code to \$1 million in a year, but only for companies that spend \$2.5 million or less on all such expenses in a year. So if you're already in the market for a major new piece of equipment, and you know your business can sustain the purchase, check with your accountant to see whether this is the time to make the move to acquire it before the end of the year.

Neither of these federal changes alter how states may treat such expenses, so you'll need to make sure you understand what those implications are as you weigh these sorts of decisions.

ON THE HOME FRONT

Finally, there are a few implications for your personal income taxes, too.

For many taxpayers, the new law does seem likely to reduce some of the paperwork at year's end. The big reason: The federal standard deduction is now at a whopping \$24,000 per household.

So if you're already in the market for a major new piece of equipment, and you know your business can sustain the purchase, check with your accountant to see whether this is the time to make the move.

Coupled with that is that deductions for real estate and local and state taxes are now capped at a total of \$10,000 per household, Sell explains.

So when you add up the other personal deductions — contributions to charity, mortgage interest, health care costs, and all the rest — and then add no more than \$10,000 in the deduction for state and local taxes, if the total still falls below \$24,000, you will no longer need to itemize for those deductions.


Sell suggests that the change in state and local tax deductibility is likely to end one strategy some taxpayers use: double-paying their property taxes every other year to boost their itemized deductions in those years, then taking the standard deduction in the alternating years. "Once they hit that \$10,000, they don't get any additional benefit," he says.

Of course, if other deductible expenses that aren't capped, such as charitable contributions and mortgage interest, can bring their overall deductions above the \$24,000 standard deduction in a given year, some taxpayers might still opt for that play under the new law.

Even with that strategy, though, "If you're under \$24,000 in itemized deductions, you're not going to get any extra benefit by prepaying anything."

WHAT'S NEXT?

So as the new year begins, consider what implications all these changes have for your business and your family's taxes. Pick up the phone and make some time with your accountant for a quick review and an understanding of the law to guide you in any important decisions.

And once you've considered your 2018 tax moves, take a moment to think ahead and decide what you might want to do differently this year. 



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Randy Lorge

The Ultimate Gift

Many organizations in this industry join to help those who still don't have access to clean or safe water *By Randy Lorge*

If you've followed my column for the past couple of years that I've been honored to write for *Plumber*, I think it should be very clear how much the plumbing trade and those who work in it mean to me.

Have you ever given any thought to how important the work you do is, or what it is that you do for others or your customers?

WHAT DOES A PLUMBER REALLY DO?

Many of the young plumbing apprentices who walk into my classroom for the first time have absolutely no clue what they've gotten themselves into. They don't realize the impact that they are about to have on the lives of others by becoming a plumber.

Have you ever given any thought to how important the work you do is, or what it is that you do for others or your customers?

Most people don't understand what we do or the impact that we make on their health and livelihood. They have never been without safe plumbing systems. Sure, they may have experienced some "discomfort" from their systems not working, but they've never had to deal with not having it for an extended amount of time. For example, maybe they didn't have hot water when they woke up. Can you imagine the devastation they must have experienced? Or maybe one or two of the three toilets they have in their home didn't flush. Oh the anguish.

Don't get me wrong, it is a bit of a discomfort, but I've seen much worse. As a matter of fact, the World Health Organization recently stated that 844 million people still lack even a basic drinking water service, and 2.3 billion people lack even a basic sanitation service.

The United Nations International Children's Fund reports that globally, an estimated 2,000 children under the age of 5 die every day from diarrheal diseases; and of these, some 1,800 deaths are linked to water, sanitation and hygiene. Almost 90 percent of child deaths from diarrheal diseases are directly linked to contaminated water, lack of sanitation or inadequate hygiene.

That's what we do: Save lives.

THE CHALLENGE COMES HOME

I've been fortunate to have traveled to places like India, South Africa and Indonesia where I've worked with other plumbers from around the world to help communities without safe plumbing systems. Our efforts have paid off in various ways. Not only did we install safe sanitation systems in these areas, but we helped train and educate the residents in these locations so they could provide for themselves after we left.

I can safely say that on every project I was involved in, my "clients" had a much different outlook on what we as plumbers do compared to the average person here in the United States. There were no jokes made about our work, but there were many smiles and laughs from those who enjoyed the results of our labor.

Last October I joined another group of plumbers from around the world on a project where over 65,000 people in one area still didn't have access to potable water. Can you imagine? Over 65,000 people in one area don't have access to safe water.

Now here's the part where I hope you're sitting down as you read this. I didn't leave the United States.

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No, that wasn't a typo. From Oct. 22-26 we worked in the Navajo Nation — the largest land area home to a Native American tribe today. It was an area larger than 10 of the 50 states in the U.S. About 40 percent of the Navajo Nation population (approximately 69,600 people) live without running water or a toilet.

Our group worked on installing plumbing systems throughout the reservation. These systems have buried water storage tanks, photovoltaic-powered pumps and water heaters, as well as whole house filters and basic plumbing fixtures installed.

You can find my daily blogs about the project at www.plumbermag.com.

THE ULTIMATE GIFT

Sometimes I think I'm "preaching to the choir" when I explain the importance of what plumbers do in my articles. But I believe you truly need to hear it. Not only do you need to hear it, but there's a chance to take your plumbing careers to the next level.

Consider joining a group or organization such as The International Water, Sanitation and Hygiene association (www.iwsh.org), which I work with as a volunteer and sponsor. If not them, then reach out to groups like Plumbers Without Borders (www.plumberswithoutborders.org) and ask how you can become involved.

By joining or sponsoring an organization such as

Last October I joined another group of plumbers from around the world on a project where over 65,000 people in one area still didn't have access to potable water.

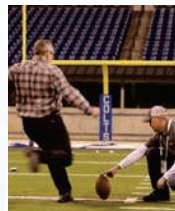
these, you will have stepped up your game and truly given the ultimate gift; the gift that will continue to give for generations. You will change lives like you have never changed them before, and you'll receive the ultimate gift of satisfaction from a job that truly save lives. **PI**

Randy Lorge is a third-generation plumber and plumbing instructor and trainer for the Plumbers Union, Local 400 out of Kaukauna, Wisconsin. Lorge was a coach for Team USA in 2015 in Nashik, India; 2016 in Diepsloot, South Africa; and in 2017 in Indonesia, where his team and he participated in the Community Plumbing Challenge. Lorge also sits on the International Association of Plumbing and Mechanical Officials Training and Education committee. He enjoys time with his family and spending as much time as possible in his deer stand. To contact Lorge, email editor@plumbermag.com.



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Product Spotlight

Hybrid water heating for commercial applications

By Craig Mandli

Tankless water heaters provide their share of benefits. They are typically more energy efficient than tank units while providing a continuous supply of hot water, which is ideal for filling a big hot tub or a whirlpool. They're also more compact than a standard water heater and mount on a wall. However, the primary disadvantage of on-demand or instant hot-water heaters is that they don't produce enough hot water to serve most households or commercial applications. Rinnai America's Demand Duo 2, though, capitalizes on the benefits of a tankless system while eliminating the disadvantages.

The commercial hybrid water heating system is designed to replace a standard tank. Featuring a part-tank, part-tankless design, it offers the best of both technologies in a quick and easy upgrade that delivers an endless supply of hot water. Building off the success of Rinnai America's current line of commercial products, the Demand Duo 2 combines the hybrid technology of the Demand Duo product family with the redundancy and performance of its commercial rack systems — featuring a 119-gallon storage tank along with two CU199 Rinnai tankless water heaters that work together to provide a large supply of instant hot water.



“We’ve already seen a huge amount of success with the Demand Duo line,” says Dale Schmitz, marketing manager at Rinnai America. “The great thing that the Demand Duo 2 does for us is that it allows us to scale up that technology and offer a solution that works for commercial customers who have higher hot-water demands.”

The Demand Duo 2 is simple to install and keeps pace with an establishment's hot-water needs — from brief, high-spike draws to a supply that is ready to go the distance, day in and day out. Because its heat source is placed outside the tank, it

actually offers more water heating capacity than traditional units. Furthermore, the removal of the heating element from inside the tank eliminates thermal stress on the tank itself, lengthening the life of the unit and its ability to consistently output hot water.

In addition to its built-in redundancy and strong performance, Demand Duo 2 offers lower operating costs, easier serviceability and maintenance. The system is also lighter and takes up less space than conventional water heaters, requires no ASME certification or inspections and has multiple venting options. **800-621-9419; www.rinnai.us.**

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TV cable conductors via test points, and a built-in mini-camera to send video back through the TV cable and truck. **800-327-7791; www.cuesinc.com.**



Bradley foam soap dispensers

Bradley's new foam soap dispensers are ADA-compliant for applications such as hospitality, retail, day care centers, restaurants, financial institutions, office buildings, regional transportation hubs and more. Maintenance of the dispensers is easy since the models use universal soap for trouble-free refills, provide

a convenient sight gauge that signals refills, and require only half the amount of refills as liquid soap. Bradley offers complete foam soap packages, with satin-finish stainless steel commercial-grade dispensers featuring recessed and surface mounting, as well as manual and hands-free models. The compact design offers a space-saving footprint in the washroom area. **800-272-3539; www.bradleycorp.com.**

RIDGID K-5208 sectional machine

The RIDGID K-5208 sectional machine cuts through roots with a 3/4 hp motor and cable that can spin up to 700 rpm. Designed for drains 2 to 8 inches in diameter, it features a toolless clutch adjustment to switch between 7/8- to 1 1/4-inch cable sizes. It comes with a Trident Sectional Cable Decoupler for disconnecting cables efficiently and cable feeder with guide tube for easy loading and unloading into an enclosed cable carrier. Designed with high-strength square steel tubing and rubber feet for enhanced stability, the machine includes an innovative fluid management system that incorporates a reservoir to catch fluid for later draining. **800-769-7743; www.ridgid.com.**



Webstone, a brand of NIBCO, ultracompact TMV valves



Webstone, a brand of NIBCO, expanded its Thermostatic Mixing Valve line to include a new ultracompact model. The space-saving 2 1/2- by 3 1/4-inch body is ideal for undersink installations. An optional temperature gauge and cold-water bypass is available on select models. The valves are certified lead-free. **800-255-9529; www.webstonevalves.com.**

Water Cannon Inc. electric clutch series of pressure washers

The heavy-duty, 12-volt electric clutch series of pressure washers from Water Cannon Inc. - MWBE are designed to mount on front of a diesel engine for high-pressure washing on location. It is available in three different pressures from 2,000 to 4,000 psi and flow rates from 4 to 8 gpm. Other features include a continuous-duty hydraulic coupling drive system, an in-line serviceable stainless steel mesh water filter, stainless steel unitized valves, forged brass manifold and a heavy-duty triplex plunger



pump. The thermo-pump protector engages at 140 degrees F, and the adjustable pressure regulator is from 150 psi to the max pressure. **800-333-9274; www.watercannon.com.**

Milwaukee Tool personal lighting lineup

Milwaukee Tool's personal lighting lineup includes two new rechargeable lights: a USB-rechargeable ROVER Pivoting Flood Light and a USB-rechargeable Pivoting Flashlight. Also included are two non-rechargeable products: a ROVER Magnetic Flood Light and a 325L Focusing Flashlight, available with and without a holster. The ROVER Pivoting Flood Light features a 210-degree head and a wide magnetic base so it can sit, stick or hang anywhere and cast a wide amount of light. The Pivoting Flashlight has a 110-degree pivoting head and includes a 508-foot spot beam for long-range visibility. The ROVER Magnetic Flood Light has dual magnets on its top and back sides to mount in different orientations for hands-free lighting. The 325L Focusing Flashlight is built to be impact- and chemical-resistant and is IP67 rated for submersion in up to 1 meter of water and protection from dust. **800-729-3878; www.milwaukeetool.com.**



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Hydronic Heating Systems, HVAC

By Craig Mandli

Boilers

Bradford White Water Heaters Brute FT Wall Hung

The **Brute FT Wall Hung** from **Bradford White Water Heaters** is a combination heating and domestic hot-water or heating-only wall-mounted boiler that efficiently meets the space-heating and hot-water needs of today's modern homes. It performs at an ultrahigh efficiency of up to 95 percent AFUE and is Energy Star rated. Modulation allows it to automatically adjust how much fuel is used to match an installation's demand for heat, from 20 to 100 percent of full power. The result can save up to 20 percent on heating utility bills compared to standard on-off boilers. With an integrated control system that includes an outdoor reset and built-in gas leak detection, it uses the latest in heating tube technology to deliver heating response and efficiency. **215-641-9400; www.bradfordwhite.com.**



Lochinvar ARMOR

Lochinvar has expanded its **ARMOR** commercial condensing water heater product line with models that range from 1.25 to 4.0 million Btu/h. They are available in indoor or outdoor construction and offer 98 percent thermal efficiency. These stainless steel-constructed models offer an enhanced low-profile, horizontal heat exchanger, which is heavier, more robust and offers easy access to the combustion system. The advanced 316L water tube design enhances flow delivering performance and reliability for large commercial applications. They come standard with the CON•X•US remote connectivity platform with SMART TOUCH control. The 8-inch touch screen and multicolor interface make setup and navigation of parameters easy. As many as eight heaters can be cascaded together for redundancy, providing peace of mind without third-party controls or complex logic programming. **615-889-8900; www.lochinvar.com.**



U.S. Boiler Company, Inc. - Burnham Brand Boilers K2 Combi

The high-efficiency **K2 Combi** condensing boiler from **U.S. Boiler Company, Inc. - Burnham Brand Boilers** comes in 135 and 180 mBh sizes. With its compact size and 95 percent AFUE, it is a fit for any application where propane or natural gas is available. The unit offers a 10-1 turndown ratio and a flat plate heat exchanger that provides suitable domestic hot-water performance. The Sage2.3 control and touch-screen display is easy to use. It has universal boiler vent connections for polypropylene, CPVC/PVC and flexible stainless steel. It also includes outdoor reset, pre-installed safety relief valve piping and a circulator installed inside the cabinet. It offers cool burner door technology to make servicing a hot unit easier and safer. **717-397-4701; www.usboiler.net.**



Controls

Caleffi North America CONTECA

The **CONTECA** from **Caleffi North America** is a direct heat energy meter designed to measure and record thermal energy usage in residential and commercial buildings, for heating only, cooling only or both heating and cooling. It has an eight-digit liquid crystal display that enables easy reading of Btu consumed, as well as a range of technical data indicating equipment operating status and logged data. It is easy to install and commission, and it is certified to ASTM E3137/E3137M-17 Standard Specification for Heat Meter Instruments by ICC-ES and Directive 2014/32/EU EN 1434 (MI 004). The heat meter has integral RS485 protocol two-wire communication for daily and monthly log data accessible via local user interface or remotely with two pulse inputs for domestic cold- and hot-water meters and two universal pulse inputs for gas or electric measurement. Up to 250 meters can connect to one data logger. It offers Modbus and BACnet communication. **414-238-2360; www.caleffi.com.**



Reliance Detection Technologies FloodMaster RS-094-MK6

When water heaters and tanks are located in the area between a structure and a dropped ceiling, the damage caused by an undetected leak can be catastrophic. The **FloodMaster RS-094-MK6** from **Reliance Detection Technologies** is an easy-to-install leak detection kit designed to mitigate potential damage from leaks in these hidden spaces. It is designed to protect commercial, residential and mixed-use buildings from water tank leaks in overhead areas. When a leak is detected, an alarm sounds, the water supply to the tank is automatically shut off, and a signal can be sent to the building automation/security system via a set of dry contacts. The kit includes a lead-free shut-off valve (1/2-, 3/4-, 1- or 1 1/4-inch size), water sensor, actuator, step-down transformer and plenum-rated wires. **888-771-4929; www.reliancedetection.com.**



It consists of an external magnetic belt containing high-performing neodymium magnets wrapped around a precision-engineered, stainless steel canister. As system water passes through the canister, iron oxide is captured by the intense magnetic field. Magnets remain outside the flow, so there are no internal sleeves or components that must be removed and cleaned. A thermal jacket is available to insulate the filter, retaining heat levels and reducing energy consumption, costs and carbon emissions. It is available in 2-inch (with 48 magnets), 3-inch (64) and 4-inch (80) pipe dimensions, with the multiple magnets ensuring effective magnetite capture through the canister's wall. **412-406-8292; www.adey.com.**

Nexus Valve Flamcovent Clean Smart

The **Flamcovent Clean Smart** air and dirt separator from **Nexus Valve** removes even the smallest microbubble and minuscule dirt particle from system water. The 360-degree rotating connection and compact dimension enables easy installation, even when space is limited. It offers flow velocities up to 9.8 feet per second, a max working pressure of 145 psi, and working temperature of between 14 and 248 degrees F. It is available in various sizes up to 2 inches and is made of brass and high-grade plastics. An insulation kit is available. Four neodymium super magnets are incorporated into the unit, and it offers low flow resistance and low loss of energy. Larger 2.5- to 24-inch sizes are available. **888-900-0947; www.nexusvalve.com.**



Furnace

Bosch Thermotechnology BGS80 gas furnace

The **BGS80** gas furnace from **Bosch Thermotechnology** delivers 80 percent AFUE heating efficiency while providing comfort to the homeowner and ease of installation to the contractor. It offers a compact size and four-way multipoise design, making it a suitable replacement for aging noncondensing furnaces. It can be integrated with Bosch Thermotechnology's IDS Outdoor Units and Cased Coils for a complete heating and cooling system. **800-283-3787; www.boschheatingandcooling.com.**



Hydronic Heating

ADEY Innovation MagnaClean DRX

The **MagnaClean DRX** magnetic dirt filter from **ADEY Innovation** provides a highly compact and cost-effective solution for removing debris and iron oxide sludge from commercial hydronic heating systems.

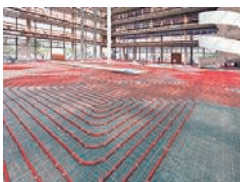


Northwestern Ohio Foam Products BarrierEZ

The **BarrierEZ** insulated floor system from **Northwestern Ohio Foam Products** is an integrated insulation and tubing technology that utilizes hook-and-loop material to secure the tubing to the insulation in one easy step. It combines the energy-saving properties of foam coated with a vapor barrier loop film and a PERT tube covered with a hook tape that allows for rapid and secure placement of hydronic radiant floor heating systems. It was designed to simplify the process of installing PEX tubing for in-floor hydronic radiant heat applications. It has an expanded polystyrene core, which insulates radiant heating projects from heat loss and retards moisture migration through concrete. The core has vapor-retarding films bonded to both sides, as well as a self-taping edge and overlapping flange, providing a seam-free installation. **800-339-4850; www.nofp.com.**

REHAU hydronic radiant heating and cooling systems

REHAU hydronic radiant heating and cooling systems reduce energy consumption, enhance thermal comfort, and support long-term health of commercial and multifamily buildings and occupants. These systems work by circulating heated or cooled fluid through a network of RAUPEX cross-linked polyethylene pipes installed in the floors, walls or ceilings. Due to the energy efficiency of hydronic energy transfer, radiant systems can lower heating and cooling energy costs by up to 30 percent and allow the air-handling systems to be downsized. By controlling the radiant temperatures of a space — a thermal comfort variable not influenced by forced-air alone — radiant systems provide even, gentle heating and cooling that measurably increases comfort. **800-247-9445; www.rehau.com.**



Pipe (PVC, Copper, Polyethylene, Pex)

Asahi/America Asahitec Climatic PP-RCT



Asahitec Climatic

PP-RCT piping systems for hydronic heating applications from **Asahi/America** are manufactured with Fibercore technology, which minimizes expansion and contraction by up to 75 percent, in turn reducing installation costs by minimizing expansion loops and supports. The pipe consists of three coextruded layers that make one homogenous pipe. The middle layer is a mix of short fiberglass strands and PP-RCT, which is isolated by an inner and outer layer of solid PP-RCT. It includes both molded socket fusion fittings (20 to 125 mm) and molded butt fusion fittings (160 to 315 mm), and molded large-diameter fittings up to 630 mm. It is NSF 14-pw certified for potable water applications and features lead-free brass adapter fittings. **800-343-3618; www.asahi-america.com.**

Pumps

AquaMotion Aqua-Shield

The **Aqua-Shield** from **AquaMotion** is a water-saving hot-water recirculation pump/system for outdoor installed tankless heaters without a built-in pump. Its built-in timer and sensor are fully automatic and work with one pipe and dedicated return line systems, On Call (OnDemand) and undersink Aqua-Flash bypass valves. It includes a tamper-proof protective, lockable housing against rain, sprinkler spray, humidity and freeze. It provides hot-water comfort when needed while saving 7,500 to 15,000 gallons of water annually. **401-785-3000; www.aquamotionhvac.com.**



Taco Comfort Solutions Hot-LinkPlus-e

The **Hot-LinkPlus-e** recirculation system from **Taco Comfort Solutions** offers high-efficiency, intelligent domestic hot-water recirculation ideal for retrofit applications. A dedicated return line is not required. It combines a 006e3 ECM hot-water circulator with a Hot-Link Valve and SmartPlug Instant Hot



Shark Bite Radiant Heating Manifold



With no fitting assembly required, the **Shark Bite Radiant Heating Manifold** is designed to reduce installation time and optimally distribute fluid throughout circuits in a closed-loop heating system. The

manifold ensures that flow to each circuit is precisely regulated and also controls the shut-off, displays temperature and allows for removal of air from the system. Fluid is heated by a water heater or boiler and distributed by the manifold throughout the different PEX pipe circuits. The manifold has a 1-inch FNPT inlet and features integrated 1/2-inch connections on the loop ports that make connecting the loops to the manifold significantly easier and faster than alternative connection methods. The system achieves maximum energy efficiency with low-temperature water that heats specific flood spaces to 87.5 degrees F or below, ultimately saving up to 20 percent in heating energy costs. They are available in three- to 13-port configurations. **877-700-4242; www.cashacme.com.**

Water Control in one easily installed package. The Hot-Link Valve, installed at the building's farthest water fixture, sends cooled water back to the water heater so hot-water lines remain hot. The circulator that comes in the package uses up to 85 percent less electricity than a conventional circulator. It has three performance curves to best match the application and a setting selection guide to make the choice simple. The Smart Plug learns hot-water usage patterns and delivers hot water when it's needed, reducing energy use and extending the life of the water heater. **401-942-8000; www.tacomocomfort.com.**



Wilo USA Wilo-Stratos GIGA

Wilo USA offers an extended range of models for the **Wilo-Stratos GIGA** line of centrifugal pumps to include 3- and 4-inch models, bringing the total offering to 28 models. The GIGA is a class IE5 space-saving in-line circulator with ECM technology, with a motor-

powerhead combination that provides optimal control over the pump, up to 9 hp. The control range is up to three times as high as conventional electronically controlled pumps, and there are multiple control modules available for integration with building management systems. With heads up to 167 feet and flows to 550 gpm, it has high corrosion protection due to its cataphoretic coating, high-efficiency EC motor, optimized hydraulic design and the ability to self-adjust to system demands. **888-945-6872; www.wilo-usa.com.**

Zoeller Pump Model 519 Condensate Pump

The **Model 519 Condensate Pump** from **Zoeller Pump** is fully automatic and easily installed. It removes condensation from air conditioning equipment, condensing furnaces, dehumidifiers, icemakers, water coolers and refrigeration systems. It handles condensate up to 140 degrees F and offers 20 feet TDH. The thermally protected unit is wall mountable, with four inlet options, a 3/8-inch discharge, stainless steel shaft, built-in safety switch and check valve, and a 6-foot power cord with ground. **800-928-7867; www.zoellerpumps.com.**



Radiator

Runtal North America Neptune Towel Radiator

The **Neptune Towel Radiator** from **Runtal North America** is available in a stainless steel finish, in either self-contained electric units or hydronic models. A wide variety of models, sizes and heat capacities allow them to be used as either supplemental heaters or in most cases the sole heat source for the entire room, as well as providing the luxury of warm, dry towels. They may be blended into a classic decor or used as a complement to today's high-tech accessories. They are available in multiple heat outputs and can be used as a direct replacement for fin-tube or cast iron radiators and baseboards. They may be used with low-temperature water, which make them suitable for radiant heating or as a complement to floor heating. **800-526-2621; www.runtalnorthamerica.com.**



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Hydronic Heating Systems, HVAC

By Craig Mandli

Internal pipe heater prevents shallow septic sewer pipes from freezing



Problem: A shallow septic sewer pipe in a four-season vacation cabin near Gresham, Wisconsin, was freezing due to high-efficiency furnace drainage when the cabin was unoccupied in the winter. This led to messy backups when vacationers rented the cabin.

Solution: Owner Darrell Deck chose the **HotLine Internal Pipe Heater** after performing an online search. “Jetting the ice out for every occurrence was getting expensive,” he says. “I was looking for a solution I could install myself that is low-voltage, efficient and reasonably priced. HotLine’s Internal Sewer Pipe Heater fit the bill perfectly.”

Result: “It was a very easy install with basic tools, excellent packaging, excellent communication and quick shipping. The instructions were fantastic, with good-sized diagrams and pictures — and in color! The hardest part of my install was getting the lid off and back on the septic tank,” Deck says. “Now I feel much more comfortable with winter coming. And we won’t have the sewer freeze problem that we had last winter.” **877-881-2980; www.hotlineinternalpipeheater.com.**

Old boilers at historical estate replaced with efficient solution



Problem: Perched atop an outcrop overlooking Lake Winnepesaukee in New Hampshire, the 12,000-square-foot Castle in the Clouds was built to resemble a European castle. The property is owned and operated by the nonprofit Castle Preservation Society. “Over 10 years or so, we’ve been busy with urgent repairs,” says Charles Clark, executive director of the society. “We also became painfully aware that the two primary buildings use about 400 gallons of oil each week during the winter.” A nine-section, 1.7 MBtu boiler served a cast iron radiation system in the castle, while an 800,000 Btu cast iron boiler in the Carriage House provided hot water to a mix of fan coils and fin-tube baseboard. Both were oversized by roughly 300 percent.

Solution: Replacing the boilers became a priority in 2017. In the castle, the outdated boilers were replaced with 285 mBh **LAARS Heating Systems NeoTherm** condensing boilers that provide redundancy and double the turndown ratio. The 95 percent AFUE boilers are ground-mounted and piped primary/secondary. In the Carriage House, they chose to install two 210,000 Btu NeoTherm boilers.

Result: Estate managers now enjoy much lower energy bills and a more sustainable future. They’ve also reduced their carbon footprint. **800-900-9276; www.laars.com.**

Geothermal technology reduces humidity and saves money in historic mansion



Problem: The Breakers historic mansion in Newport, Rhode Island, needed to find a way to drastically reduce heat and humidity in the 125-year-old structure without extensive remodeling or unsightly outdoor condensers. Because of the humidity and lack of central air conditioning, historic artifacts, furniture and carpentry work was at risk of damage, including splintering and cracking. The mansion also sees hundreds of thousands of guests per year, and visitors fainting had become an issue because of the extreme heat.

Solution: To solve this issue, The Breakers mansion looked to direct exchange geothermal technology. An eco-friendly **Waterless Geothermal System** from **Total Green Mfg.** was installed, free of water, circulating pumps and toxic antifreeze. By using the original ductwork, the installation process was not invasive, protecting the structure from extensive rebuilding. Once the system was installed, the unit was able to offer humidity removal while maintaining low humidity levels throughout the 70-room mansion, preserving the home and its furnishings while making visitors comfortable.

Result: Because of the efficiency of the technology, not only did The Breakers mansion solve the issue of high humidity, but the system also keeps operating costs low. A conventional HVAC system would have cost much more to operate and required outside condensers that would disrupt the historic look of the mansion. **419-678-2032; www.waterlessgeothermal.com.**

PEX piping a key component in radiant heating and cooling system



Problem: Los Angeles' 100,000-square-foot UCLA Wasserman Eye Research Center sought to combine occupant comfort and LEED Silver certification in a building with high ceilings and large glass walls, rendering it highly susceptible to heat gain.

Solution: Architect Richard Meier & Partners selected a hydronic radiant heating and cooling system to help meet energy goals and capitalize on the specific benefits such a system offers buildings with large glass walls and high ceilings. The first three floors were specified to include radiant heating and cooling, and PEX pipe manufacturer **Uponor** was asked to help with design and product guidance. Working closely with mechanical contractor Circulating Air, Uponor helped design the system in conjunction with the project's engineers and architects. The four-person Circulating Air crew worked closely with Uponor rep Keyline Sales to ensure efficient installation of 16,000 feet of **Wirsbo hePEX** piping. "We were truly amazed at how quickly and easily we installed the piping for the radiant heating and cooling system," says Matt Fitzgerald, Circulating Air job foreman. "Receiving training on site from Keyline really helped us, and our crew got up to speed very quickly." The PEX pipe hooked up to six manifolds and six cabinets divided between the three lower floors. "The installation was fairly straightforward," Fitzgerald says.


Result: The radiant heating and cooling system helped reduce the load on the building's forced-air system, cutting energy usage while keeping occupant comfort and indoor environmental quality at the forefront. **800-321-4739; www.uponor-usa.com.**

New method expedites repair on old building



Problem: Roberts Environmental Control outside of Chicago received a call about a leak in a Michigan Avenue building originally constructed in 1901. The building had a leak in a steam line, and the owners needed a quick fix. The repair project was estimated to take all day.

Solution: Because the leak was within a chase, they didn't want flames used or someone to have to thread pipes in a small space. The chief engineer of the building installed the **Viega MegaPress XL**. The repair was finished within two hours through the use of MegaPress XL and the MegaPress XL PressBooster. "We use MegaPress on all our gas piping jobs in the suburbs," says Clayton Lietz, mechanical engineer and account executive with Roberts Environmental Control. "They're an ongoing client, and I use Viega all the time, so it made sense to use MegaPress XL. The repair required a 4-inch fitting, but the crew also needed the PressBooster, which is when Lietz called Michael Hanney, Viega industrial accounts manager. He brought his loaner tool and met Lietz's crew on site so they could make the repair. Lietz says it was tight quarters to make the repair so there really would have been no way to weld or thread anyhow. They simply angled the PressBooster in and made the presses necessary."

Result: "We projected it would take eight hours, and it was done in two. We sure appreciate that," Lietz says. 800-976-9819; www.viega.us. 

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CUES launches redesigned website

CUES announced it launched a newly designed website, featuring a new look and feel with less text and more imagery. Streamlined menus and simplified navigation make it easier to use, and it has a responsive layout for all platforms, including smartphones and tablets.

Picote Solutions' Brush Coating System gains approved status

Picote Solutions announced that its Brush Coating System for the rehabilitation of deteriorated pipelines now holds WRc Approved status. The WRc Group is an independent public limited company providing research and consultancy in water, waste and the environment in the United Kingdom. The assessment schedule from WRc includes all aspects of appearance; mechanical characteristics testing, including short-term flexural modulus, long-term flexural modulus, and temperature of deflection under load; resistance to high-pressure waterjetting; resistance to abrasion; product design; product and materials manufacturing; and installation procedures.

SJE-Rhombus launches new websites

SJE-Rhombus launched four new websites as part of the company's rebranding efforts. Existing sites for www.csicontrols.com, www.primexcontrols.com and www.sjrhombus.com received a redesign, while an additional corporate site was created for SJE-Rhombus at www.sjeinc.com. This new site contains all corporate information, such as history, ESOP, leadership and career opportunities.

Asahi/America acquires Plastics Performance

Asahi/America acquired Louisiana-based Performance Plastics. The fabrication shop will aid Asahi/America in expanding its existing fabrication capabilities and capacity, as well as broaden the company's engineered plastic products and services offerings.

GPS Insight announces new CEO and executive promotions

GPS Insight announced the promotion of Gary Fitzgerald to CEO. Rob Donat, former CEO and founder, will remain with the company as chairman of the board. Wayne Holder, the company's controller, moves to the chief financial officer role; and Jason Walker, vice president of sales, becomes chief revenue officer. Fitzgerald joined the company in November 2016 from General Electric, where he served as an enterprise architect for 10 years. He served as vice president of technology for almost two years and led the company's product development efforts, technical teams and security practice.


Ranger Design celebrated 30th anniversary in 2018

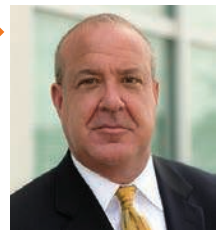
Ranger Design announced 2018 was the company's 30th anniversary. Originally started in founder Randal and Derek Cowie's small garage, the company now has over 300 distributors for its van shelving, ladder racks, drawers and bins, bottle holders, and other van accessories.

PHCC names International Code Council as newest partner

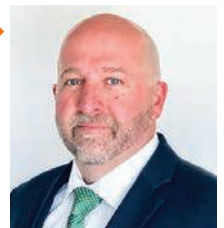
The Plumbing Heating Cooling Contractors National Association announced a new corporate partnership with the International Code Council. Through this alliance, PHCC members will have increased access to I-Codes books and training, potentially through the PHCC associations.

Taco Comfort Solutions names three new regional sales vice presidents

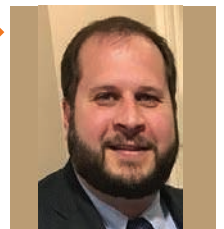
Taco Comfort Solutions named John Morgan as area vice president, Western U.S. Morgan has over 25 years' experience including sales, operations and marketing, and his experience includes positions as senior vice president at a Fortune 500 medical device company. Ric Turmel was named as area vice president, Central U.S. Previously at Taco Comfort Solutions, Turmel led the business development and commercial sales teams and the iWorX controls group. Taco Comfort Solutions also promoted Geoffry Bent to southeast region manager, commercial products. Previously, he was a regional sales manager for Taco Comfort Solutions' building automation system product group. 



▲ John Morgan



▲ Ric Turmel



▲ Geoffry Bent

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CALENDAR

Feb. 12-14

Indoor Environment & Energy Expo (IE3 Show),
Gaylord National Harbor, Oxon Hill, Maryland.
Visit www.ie3show.com.

Feb. 19-21

The Kitchen & Bath Industry Show (KBIS),
Las Vegas Convention Center, Las Vegas.
Visit www.kbis.com.

Feb. 19-21

**National Association of Home Builders (NAHB)
International Builders' Show,**
Las Vegas Convention Center, Las Vegas.
Visit www.buildersshow.com.

Feb. 20-23

**Water & Wastewater Equipment,
Treatment & Transport (WWETT) Show,**
Indianapolis Convention Center, Indianapolis.
Visit www.wwettshow.com.

March 3-7

**Mechanical Contractors Association of America
(MCAA) Annual Convention,**
JW Marriott Desert Ridge, Phoenix. Visit www.mcaa.org.

March 22

Illinois PHCC Expo & Education Day,
Drury Lane Conference Center,
Oakbrook Terrace, Illinois. Visit www.ilphcc.com.

March 23

Flow Expo 2019,
Fairplex, Pomona, California. Visit www.flowexpousa.com.

May 7-9

National Hardware Show,
Las Vegas Convention Center, Las Vegas.
Visit www.nationalhardwareshow.com. 

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LEGAL NOTICE

You may be entitled to benefits from a class action settlement if: (a) you have owned or occupied at any time since January 1, 2005, a residential or commercial structure in the United States that contains or contained NIBCO's PEX Tubing, Fittings or Clamps and have unreimbursed costs or damages resulting from water leaking from one of these products, or (b) you have repaired or paid to repair damage resulting from water leaking from one of these products in one of these structures.

A proposed settlement has been preliminarily approved by the Court in a class action lawsuit filed against Defendant NIBCO Inc. alleging that NIBCO's PEX Tubing, Fittings and Clamps (the "Covered Products") are defective and can leak and cause water damage. NIBCO denies the allegations and denies that there is anything wrong with the Covered Products. The Covered Products include:

- Tubing: PEX tubing manufactured or sold by NIBCO in the United States using (or labeled by NIBCO as using) its 1006 formulation and used in residential or commercial structures, including NIBCO NEXT-Pure Tubing, NIBCO DURA-PEX Tubing, and NIBCO PEX. The Tubing was manufactured until 2012.
- Fittings: ASTM F1807 yellow brass fittings manufactured or sold by NIBCO in the United States for use in PEX applications and used in residential or commercial structures. NIBCO stopped manufacturing this product in 2015, though the significant majority had been manufactured and sold by the end of 2012.
- Clamps: Stainless steel clamps manufactured or sold by NIBCO in the United States for use in PEX applications and used in residential or commercial structures. NIBCO stopped manufacturing this product in 2015, though the significant majority had been manufactured and sold by the end of 2012.

Who's included in the Settlement Class? The Settlement Class is defined as "All Persons that own or have owned at any time since January 1, 2005, a residential or commercial structure in the United States that contains or contained NIBCO's Tubing, Fittings, or Clamps, including their spouses, joint owners, heirs, executors, administrators, mortgagees, tenants, creditors, lenders, predecessors, successors, trusts and trustees, and assigns ("Occupant Persons"); as well as all Persons who have standing and are entitled to assert a claim on behalf of any such Occupant Persons, such as but not limited to a builder, contractor, distributor, seller, subrogated insurance carrier, or other Person who has claims for contribution, indemnity or otherwise against NIBCO based on claims for Qualifying Leaks of the Tubing, Fittings, or Clamps with respect to such residential or commercial structures. The Settlement Class includes all Persons who subsequently purchase or otherwise obtain an interest in a property covered by this Settlement without the need of a formal assignment by contract or court order." There are exclusions that apply and that are listed in the Settlement Agreement and on the Settlement Website, www.pexsystemsettlement.com.

What benefits does the Settlement provide? A Settlement Fund of up to \$43.5 million will be established that will provide benefits to Settlement Class Members, pay attorneys' fees and costs, settlement administration costs, and any service awards to the named plaintiffs. Payments to eligible Settlement Class Members who submit a valid and timely Claim Form may include:

1. Payment for Past Property Damage Claims for Qualifying Leaks that occurred between January 1, 2005 and the Effective Date are eligible for a payment between 25% and 70% of their Reasonably Proven Property Damage.
2. Payment for Future Property Damage Claims for Qualifying Leaks that occur during the Claim Period (after the Effective Date) are eligible for a payment of between 25% and 70% of their Reasonably Proven Property Damage.
3. An optional re-plumb payment covering between 25% and 70% of the cost for those who demonstrate three (3) or more Qualifying Leaks, each one occurring at a separate time after repair and in such a manner that re-plumbing all or part of the structure would mitigate future events

How do I receive Settlement benefits? You must submit a valid and timely Claim Form to the Settlement Administrator. If the Qualifying Leak occurred between January 1, 2005 and the Effective Date, the deadline for submitting a Claim Form is 150 days after the Effective Date. If the Qualifying Leak occurs during the Claim Period and after the Effective Date, the deadline for submitting a Claim Form is 150 days after the Qualifying Leak occurs. If three (3) or more Qualifying Leaks are experienced, the deadline for submitting a re-plumb claim is 150 days after the Effective Date if the leaks were experienced before the Effective Date or 150 days after the third Qualifying Leak occurs if such third leak occurs after the Effective Date. You can download a Claim Form at www.pexsystemsettlement.com and submit it via the Settlement Website or by mailing it to the Settlement Administrator at: PEX System Settlement, ATTN: CLAIMS, PO Box 58086, 1500 JFK Boulevard Suite C31, Philadelphia, PA 19102.

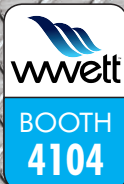
Who represents me? The Court appointed Berger Montague PC and Sauder Schelkopf LLC as Co-Lead Class Counsel to represent the Settlement Class. You do not have to pay Class Counsel. If you wish to be represented by your own lawyer, you may hire one at your own expense.

Your options. If you are included in the Settlement Class and do not submit a Claim Form, your rights will be affected and you will not receive any payment from this Settlement. If you do not want to be legally bound by the Settlement, you must exclude yourself by February 27, 2019, following the instructions in the Notice of Class Action Settlement available at www.pexsystemsettlement.com or you won't be able to sue, or continue to sue, NIBCO about the legal claims resolved by the Settlement. If you do not exclude yourself, you may object to the Settlement by submitting a written objection by February 27, 2019, following the instructions in the Notice of Class Action Settlement available at www.pexsystemsettlement.com.

The Final Approval Hearing. The Court will hold a Final Approval Hearing on April 8, 2019 to decide whether to approve the Settlement, award Class Counsel attorneys' fees up to 29.885% of the Settlement Fund and reasonable expenses, and award the Class Representatives any requested service awards. If approved, these amounts, as well as all settlement administration costs, will be paid from the \$43.5 Million Settlement Fund.

Want More Information? Call 1-855-649-5968, go to www.pexsystemsettlement.com, or write to PEX System Settlement, ATTN: CLAIMS, PO Box 58086, 1500 JFK Boulevard Suite C31, Philadelphia, PA 19102.

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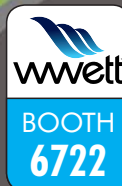
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