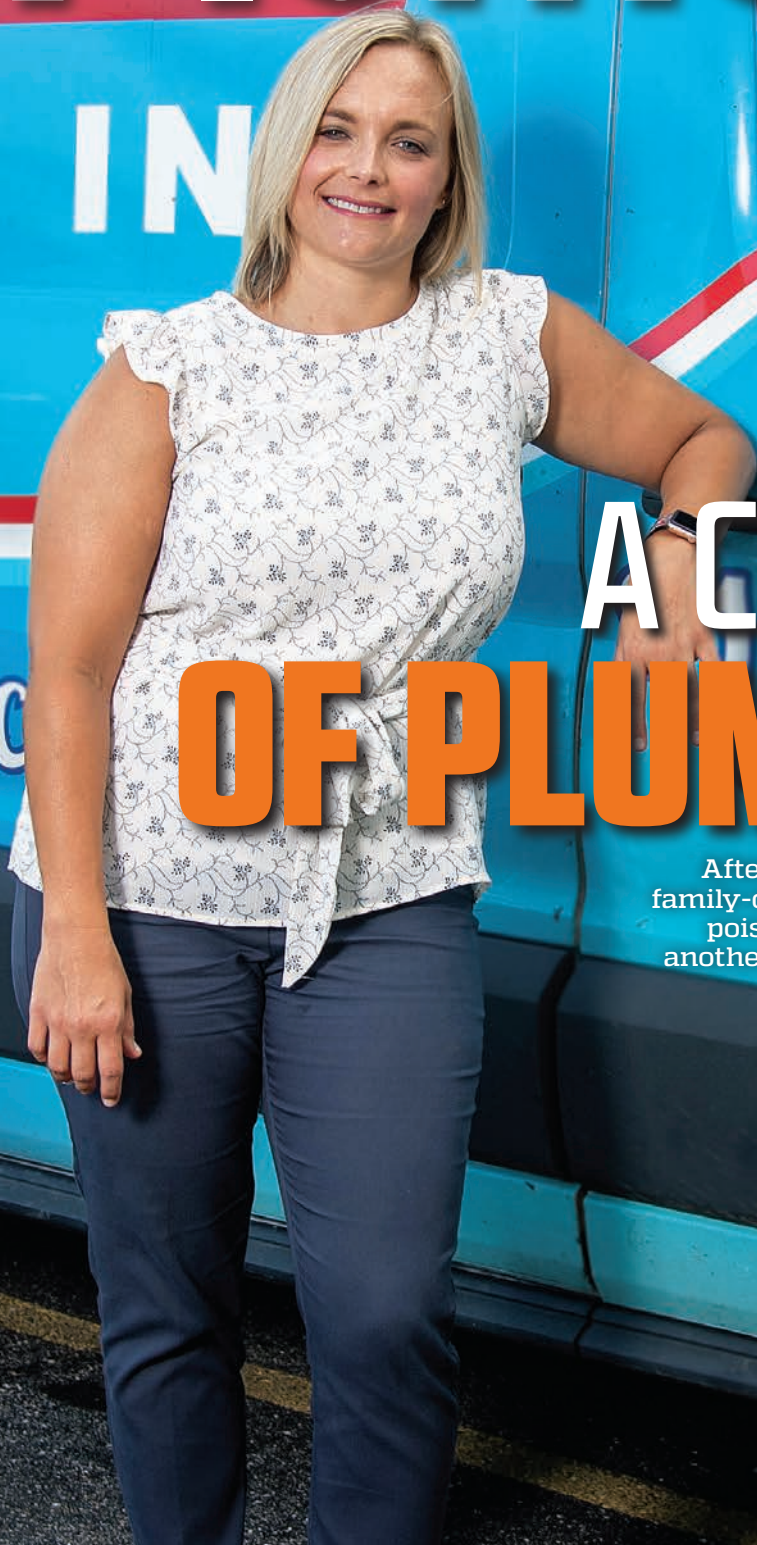


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A CENTURY OF PLUMBING

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SMALL DRAIN MACHINE
STILL PACKS A PUNCH
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TRACER GAS SYSTEMS COULD
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On the ROAD Portability Meets Productivity

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- By Ken Wysocky



On the Cover

Amber Lutz-Sewell, owner of Lutz Plumbing in Shawnee, Kansas, stands next to one of her company's service vans. The company has 12 employees and serves a 30-mile radius around Kansas City. (Photo by Denny Medley)

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Winnie May

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Cory Dellenbach

Take a Step Back

Three simple ways you can cut back on stress and make your job and health better

We've all had those moments: Stress is building up, your head is spinning and you blow up. Plumbers are a varied group; there are business owners, longtime veterans, rookie plumbers and more in the ranks. There are plenty of stressors for everyone, and no one is above getting stressed out from time to time.

New plumbers worry about whether they are learning and how they'll succeed. Business owners worry whether customers are being served properly and money is coming in. Even veteran plumbers have work stress.

Stress can cause anxiety, aches and pains, frequent sickness and many other health effects. What happens if you do start feeling stress levels rise at work? There are simple ways to ease stress before it escalates into something more.

Effective delegation requires you to map out what needs to be done, when it needs to be done, assign the work, confirm the employees understand the job and confirm the results will be delivered by a certain time.

Learn to Delegate

I know, this one can be tough for a lot of people — especially business owners. When you are tasked with managing other people, it can be easy to try and do everything and meet every demand yourself. You have to be realistic though and avoid overloading yourself.

Effective delegation requires you to map out what needs to be done, when it needs to be done, assign the

work, confirm the employees understand the job and confirm the results will be delivered by a certain time.

Communication Must Be a Priority

I know this is a “tough guy” type of industry. Some of you may feel uncomfortable discussing the stresses you are facing, but getting help is the first step in finding relief.

If you feel like you have too much on your plate, you can't keep up with what you have already or are having problems with a co-worker, reach out to your manager first. If you are facing issues on a personal level, seek guidance from an expert or a trusted friend or family member.

When working in plumbing — or any construction-related field for that matter — it is easy to get stressed about the constant pressure of meeting deadlines, staying within budgets and meeting customer demands.

Working continuously under high amounts of stress can cause mental fatigue and burnout. If you let it, this industry can demand more than you are able to give.

Learn to take a break and recharge. It could be as simple as a scheduled lunch, short rest break, more sleep or scheduling that vacation you've been planning for the last decade.

Lay Back and Relax

These all seem like simple little things, but they will help you reduce stress and your chance of blowing up at a co-worker or family member who doesn't deserve it.

What are ways you've learned to deal with the stress of the job? Let me know by emailing me at editor@plumbermag.com.

In the meantime, relax on the recliner and enjoy this issue! 📧



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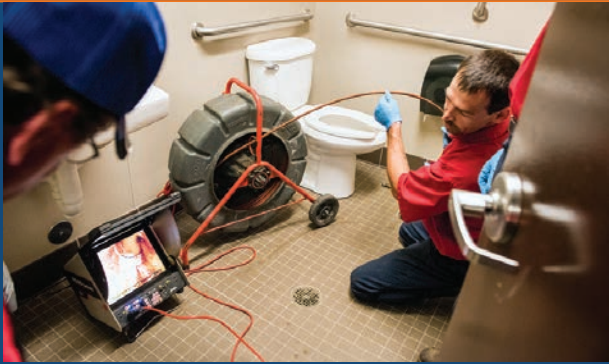
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In this online exclusive, read about two companies that serve as examples of the success you can find with your drain cleaning customers by making camera inspections a routine part of every job instead of an add-on service with extra cost.

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NEW HOME

Retired Plumber's Toilet Seat Art Collection Lives On

We've written previously about Barney Smith, a retired master plumber in Texas who developed a following for his unique and massive collection of toilet seat art. Smith recently died at age 98, but the 1,400 decorated toilet seats that were once displayed in his garage turned art museum have a new home. Read about it in this online exclusive. ▶ plumbermag.com/featured

SMART BUY

A Standardized Approach to Equipment Replacement

When it comes to timing the replacement of worn-out equipment, using some intuition is fine, but you'll get the best results if hard data is backing up your decisions. This online exclusive covers a few approaches to equipment replacement, all relying on different aspects of data sets to aid the process. ▶ plumbermag.com/featured



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◀ Brent Drabik, a plumber with Lutz Plumbing, uses a Spartan model 758 jetter at a job site in Shawnee, Kansas.



A CENTURY OF PLUMBING

After withstanding the test of time, family-owned Kansas company stands poised for more growth – and eyes another 100 years in business

By Ken Wysocky ■ Photography by Denny Medley

Lutz Plumbing, Shawnee, Kansas

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Back in 1920, when William Lutz founded the plumbing company that still bears his name, Woodrow Wilson was president, the Cleveland Indians won the World Series and women in America had just gained the right to vote.

A century later, it's hard to conceive how much things have changed. But at Lutz Plumbing, based in Shawnee, a suburb of Kansas City, Kansas, several things have remained constant: The Lutz clan, now in its fourth generation of family ownership; an unerring focus on customer service; and continued investments in advanced technology that enhance customer satisfaction and open up new business markets.

There's also an intangible factor behind the company's noteworthy longevity as it prepares to celebrate its 100th anniversary in 2020: a stubborn refusal to quit when times get hard, says Amber Lutz-Sewell, the great-granddaughter of the company's founder and the current co-owner of the company along with her father, Jim Lutz.

"We don't give up," Lutz-Sewell says. "Lutzes are known for being stubborn and hardheaded — that's for sure.

"We've been through some lean times when we weren't sure what would happen to the business, but we've never let anything stop us," she continues. "Family ownership and the tradition we've established of helping others is very important to us. Many of our customers have been with us for 30 or 40 years, and we take a lot of pride in that."

Statistics about how many 100-year-old plumbing companies there are in the U.S. are hard to come by. But it's easy to imagine the list is short, especially considering the high failure rate of companies in their third, fourth or more generations of family ownership.

In bucking that trend, it certainly helps that Lutz-Sewell takes her family's commitment to customers very

“We've been through some lean times when we weren't sure what would happen to the business, but we've never let anything stop us. Family ownership and the tradition we've established of helping others is very important to us.”

Amber Lutz-Sewell



▶ Brent Drabik adjusts the Spartan jetter on the job site.



▲ Lutz Plumbing team members, from left, Pearce Latini, Kevin Griffin, Willis Fitzpatrick, Brent Drabik and owner Amber Lutz-Sewell stand for a photo at their yard in Shawnee, Kansas.

▼ Lutz Plumbing's Fitzpatrick gets the Spartan 717 jetter ready for a job.



seriously. It's a mindset she learned at an early age, she says, noting the service-call ride-alongs she did with her father, starting when she was about 8 years old. They left a lasting impression, she says.

"I realized that plumbing is a 24/7 job — people need you all times of day and night," she says. "It also taught me a lot about customer service. In this industry, you should be working for more than just a paycheck.

"You're really helping people in their time of need," she continues. "To this day, my favorite thing to do is to help people. We all know that we have a real impact on peoples' lives."

MARKETING BACKGROUND PAYS DIVIDENDS

Lutz-Sewell originally had no intent of joining the family business, though she says she never was opposed to it, either. She attended the University of Kansas, where she earned a degree in sports management. "I wanted to work in marketing for sports teams," she says.

After college graduation and working for several years in marketing, Lutz-Sewell had a change of heart and asked her dad for a job in 2002. But her father discouraged such a move because the company was struggling at the time.

When she asked again several years later, he relented and Lutz-Sewell started out by answering phones, scheduling jobs and doing some bookkeeping and marketing work. She also revamped the company's website, she says.

“We make more than 100 service calls a week, and we want our customers to have a consistent service experience every time they use us.”
Amber Lutz-Sewell

Lutz-Sewell gradually assumed more and more management responsibilities and pushed for more growth. In early 2015, the company had four employees: Lutz-Sewell, her father and two technicians. By later that same year, the company bought another service truck and hired two more employees, a technician and an office worker.

Lutz-Sewell became the majority owner of the company in 2016 and growth continued. Today, the company employs 12 people, including six technicians, and runs six service trucks: five Ford Transit Connect XL cargo vans and a Mercedes-Benz Sprinter van. Each truck carries about \$5,000 worth of inventory, she says.

Since she became the majority owner, revenues have increased annually at about a 30% clip. “I wasn’t interested in working in the field as a plumber, so that allowed me to focus more on working on the business,” she says, explaining the revenue surge. “Dad didn’t have that luxury because he was in the truck all the time.”

To clean drainlines, Lutz technicians use Spartan Tool Model 100 (for 1 1/4- to 4-inch-diameter lines), 300 (for 3- to 6-inch-diameter lines) and 2001 (3- to 10-inch-diameter lines). The company also owns five RIDGID SeeSnake pipeline inspection cameras and a Spartan 758 trailer jetter. For power tools, technicians generally rely on RIDGID and Milwaukee Tool products.

CHANGE IS HARD

The relatively rapid growth and operational changes posed challenges. As many people who work with relatives in family-owned businesses can attest, it’s often not easy for younger family members to get parents to buy into and implement new ideas.

“We’d always had slow and steady growth,” she explains. “My family did a great job over the years, but the company hadn’t been run as much like a business. And Dad would be the first one to admit he resisted new ideas.”

So what strategy does she recommend to others for affecting changes while minimizing adversity? While she concedes there’s no one-size-fits-all answer, Lutz-Sewell says that patience, diplomacy and consensus-building are valuable assets.

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“My approach is to tread lightly,” she explains. “I don’t push things through without the approval of others. I like to have some support in my corner. To get buy-in, it’s important for other people to see as much value in a proposal as I do.”

A good example is the company’s service-agreement program, called the Lutz Loyalty Club, which went into effect in fall 2017. For a \$99 annual fee, customers get a variety of benefits, including a 15% discount off plumbing services, a free safety inspection, free extended warranties on new products, free priority service and no added charge for after-hours service.

“I couldn’t get any traction on the program with Dad,” she says. “Nothing against him, but he just didn’t see the benefit of it. And at the time, he was the majority owner. But I kept hiring people who felt the same way as I did, and Dad eventually agreed to give it a try.”

So far, the program has been successful, with more than 1,500 subscribers. A key component is a reasonable price; for most customers, the program pays for itself during the year, especially if they need a big-ticket item such as a new water heater, she notes.

“It’s also valuable because it helps us maintain a loyal

customer base,” she adds. “It keeps us in front of customers because they’ll call us instead of somebody else. And from a marketing perspective, it’s also so much cheaper to maintain existing customers than it is to acquire new customers.”

CUSTOMER SERVICE IS CRITICAL

A big key to the company’s longevity is a strong emphasis on customer service. Important components include well-maintained equipment that helps avoid on-the-job breakdowns, comprehensive training to ensure all technicians follow the same procedures and processes, and a customer-feedback program that helps management ensure those processes are followed and also reveals customer pain points, Lutz-Sewell says.

“We make follow-up phone calls to customers after every service call,” she explains. “It’s pretty much a full-time job for one of our employees. We’ve been doing this for nearly 10 years.

“We make more than 100 service calls a week, and we want our customers to have a consistent service experience every time they use us,” she continues. “We have a step-by-step process for service calls, as well as for how things work

Continued ▶

Professional groups provide powerful ideas for growth and improvement

As the co-owner of Lutz Plumbing in Shawnee, Kansas, Amber Lutz-Sewell has one official business partner: her father, Jim Lutz. But she also relies on dozens of unofficial “partners” via professional best-practice organizations that provide her with business strategies and tips that have moved the fourth-generation family business forward on many fronts.

“These groups help us keep a big-picture perspective,” she says. “If you have aspirations to grow, you need to have some kind of game plan for the future. These groups help you think through how that’s going to look and how to execute it.”

The two primary groups that have most benefited Lutz Plumbing are the Service Nation Alliance and an affiliated group called the Service Roundtable. Service Nation Alliance owns Service Roundtable; for details, including membership fees, visit www.servicenationalalliance.com or www.serviceroundtable.com.

“We get a ton of benefits from both organizations,” Lutz-Sewell says. “They’re an incredible value. I’d advise everyone to join groups like these. They teach you how to work on the business, not in the business.”

One of the benefits of the company’s Service Nation Alliance membership is weekly conference calls with owners of similar-sized businesses nationwide. The topics covered during the calls might range from recruiting and retaining quality employees and personal professional development to work-life balance and ways to work more efficiently. The membership also provides rebates for buying certain supplies and materials; the rebates can help offset the membership costs, she says.

The company joined the Service Roundtable in 2011 and the Service Nation Alliance in 2015. The memberships in those two groups — along with past memberships in other similar groups — helped the company establish some major components of the company’s customer service efforts, including its Lutz Loyalty Club and a quality-control program that includes follow-up calls to customers after technicians leave job sites, Lutz-Sewell says.

“We’re constantly evolving and learning how to give our customers the best service experience and technology. ... And these groups help us figure out what works best and why,” she says. “They definitely can help you grow.”



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- Winch mount for easy loading and unloading
- High Quality Stainless Steel & Brass Fittings
- Removable Top handle for easy storage

Motor: 23 hp Briggs & Stratton V-Twin

Fuel: Gas / Propane

Pump / Pressure: 5.5 GPM Pump @ 4,000 PSI

Frame & Reel: 100% Stainless Steel

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◀ Master plumber Kevin Griffin tightens a 2 1/2-inch RPX backflow preventer on a job site for Lutz Plumbing.

“Having technicians available during different shifts also would benefit customers because they wouldn’t have to pay an extra charge for after-hours calls,” she observes. “This goes back to customer service and making ourselves available for people in their time of need.”

PLANNING FOR GROWTH

Lutz-Sewell has ambitious plans for growth in mind, including doubling the number of service trucks to 12 and adding six new employees within the next three years or so.

“We also want to continue to grow our apprentice program,” she says, pointing out that the company pays for some of the apprentices’ training and education costs. “We’ve already graduated three apprentices into service trucks, and that’s how we plan to

from the time a customer calls the office to the ‘happy call’ (follow-up) after the service call ends.”

The program started out as an effort to determine what was most valuable to customers in terms of services and discounts. But over the years, it evolved into a quality-control tool, she says.

“We try to make the happy call within an hour after our technicians leave a customer’s home, or at least on the same day, or at the latest on the next day after a service call,” Lutz-Sewell says.

ENCOURAGING ONLINE REVIEWS

Part of the service-call process includes having technicians ask customers if they’re willing to post an online review of the technician’s work. “We also ask customers for an online review when we make the happy call,” Lutz-Sewell says. “If they agree to do it, we send them either an email or text with a link.”

At Lutz, customer service also extends to helping technicians strike a good work-life balance, which keeps them invigorated about work. For example, the company currently is developing a system where some technicians would work second and third shifts, which would allow the company to provide 24-hour service without having technicians on call.

“Our guys have lives, too,” Lutz-Sewell says. “Dad taught me to always do whatever you can for customers while also keeping in mind our internal customers — our employees. Finding that balance is so important.


add six more technicians — by training and growing our own employees.

“We think that’s the future,” she adds, noting how difficult it is to find quality technicians. “Our apprentices have friends who see how far they’ve come and the money they’re making, so it’s starting to pick up steam.”

Does Lutz-Sewell feel pressure to keep the family business alive? Absolutely, she says. “I want to make my family proud, and I want my kids (two younger children) to see the value of working hard and helping people and treating them the right way,” she says.

“It wouldn’t be much fun to be the one that brings it all down.

“On the other hand, it doesn’t keep me up at night,” she continues. “We have such good people working here and we’re all so passionate about what we do that I can’t see anything but more success in our future.”

Even for another 100 years? “Sure, let’s do it,” she says. 

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Portability Meets Productivity

FlexShaft drain machines may be easy to carry and use, but they're anything but lightweights when it comes to unblocking tough clogs

By Ken Wysocky

As the owner of All Drains Drain Cleaning and Plumbing Repair, a two-man operation, Duane Goodpaster is all about maximizing daily productivity and efficiency. As such, he wasted no time investing in a RIDGID FlexShaft K9-102 portable drain cleaning machine.

"In 2017, a friend of mine in Baltimore recommended it to me and I ordered one the very next day," says Goodpaster, who founded his business in 2001 in Middletown, Ohio, located about halfway between Dayton and Cincinnati. He serves customers in a roughly 40-mile radius around Middletown, doing drain cleaning and service and repair plumbing. "I immediately started using it when it arrived a couple days later. It has definitely changed the way we do things."

“After that, I still had time to do four more service calls and then get home in time to have dinner with my family. I wish this technology would've come out 20 years ago when my daughters were younger.”

Duane Goodpaster

One of the primary attractions was portability. The K9-102 weighs about 24 pounds and measures approximately 19 by 7 1/2 by 22 inches, so it's easy to carry just about anywhere. In addition, it's powered by an 18-volt, battery-powered drill, so there's no need to deal with extension cords.

The portability easily translates into productivity. Before, Goodpaster used drain machines that weighed close to 300 pounds. Lugging them up and down stairs several times a day or in and out of homes and buildings took its toll physically.



▲ Duane Goodpaster, owner of All Drains Drain Cleaning and Plumbing Repair in Ohio uses a RIDGID FlexShaft drain machine at a restaurant job. Goodpaster now owns four FlexShaft machines, two K9-102s and two K9-204s. (Photo courtesy All Drains Drain Cleaning and Plumbing Repair)



Middletown, OH

| | |
|-----------------------|---|
| COMPANY | All Drains Drain Cleaning and Plumbing Repair, Middletown, Ohio |
| OWNER | Duane Goodpaster |
| MACHINE | RIDGID FlexShaft K9-102 and K9-204 drain machines |
| FUNCTION | Cleaning 1 1/4- to 2-inch-diameter/2- to 4-inch-diameter drainlines, respectively |
| FEATURES | K9-102 weighs about 24 pounds, measures approximately 19 by 7 1/2 by 22 inches and comes with 50 feet of 1/4-inch-diameter cable. K9-204 weighs around 38 pounds, measures roughly 21 by 11 by 24 inches and comes with 70 feet of 5/16-inch-diameter cable. Both powered by 18-volt drill and generate maximum of 2,500 rpm. |
| COST | Approximately \$880 and \$1,320, respectively |
| WEBSITE | www.alldrainsonline.com |
| RIDGID WEBSITE | www.ridgid.com/us/en/flexshaft-machines |

Furthermore, in restaurants — a major source of All Drains' work — Goodpaster would sometimes have to haul in different size drain machines, depending on how cramped the work areas were.

"I was looking for a way to stop carrying these big machines around," he says. "I'm 47 years old and had my first back surgery at age 37. I knew there'd come a time when I couldn't carry these machines around anymore."

NO LONGER LUGGING

But that's no longer a concern. Goodpaster says he now can quickly clean eight to 10 drainlines in one restaurant, using either a FlexShaft K9-102, designed for 1 1/4- to 2-inch-diameter pipes, or a larger K9-204, developed for 2- to 4-inch-diameter pipes.

"It gives you a lot of power. And it spins the chain knocker at the end of the cable at the same number of revolutions per minute as it does at the point of the drill — there's no lagging or binding up."

Duane Goodpaster

The K9-102 includes a 50-foot-long, 1/4-inch-diameter cable, and the K9-204 features 70 feet of 5/16-inch-diameter cable. It weighs around 38 pounds and measures roughly 21 by 11 by 24 inches. Both machines come with two chain knockers that expand as they rotate to clean the entire circumference of a pipe.

"One day I did eight drains in one restaurant in just two hours," Goodpaster says. "And I cleaned each one several times with a chain knocker, which removes all the grease and leaves pipes in like-new condition. I wasn't just poking holes through the middle of the sludge and grease.

"After that, I still had time to do four more service calls and then get home in time to have dinner with my family," he adds. "I wish this technology would've come out 20 years ago when my daughters were younger."

Goodpaster estimates that drain cleaning jobs go 40% to 50% faster with the FlexShaft machines. Goodpaster and his son-in-law, Luke Brongersma, can each do seven or eight jobs a day. "It's just amazing how much time you save, and it does such a thorough job of cleaning," he says.

A major part of the productivity boost stems from the units' design, which encloses the cable inside a 3/8-inch-diameter, flexible nylon sheath for the K9-102 and a 1/2-inch-diameter sheath on the K9-204. The sheath prevents the cable from spinning wildly inside the pipe. As such, there's less job site mess as the line is retracted.

CAMERA IT WHILE CLEANING

Better yet, the nylon sheath allows technicians to insert a pipeline inspection camera into a line while the machine is cleaning, without jeopardizing the camera. Goodpaster owns one RIDGID SeeSnake inspection cameras and is preparing to buy another one.

"You can actually see what you're doing while you're cleaning," he says. "Which means you don't have to stop and pull out the line, then push in the camera to take a look, then pull out the camera and push the cable back in to clean more, and so forth. It takes out all of the guesswork.

“And with the camera there, you can invite homeowners to take a look, instead of having them wonder what you’re doing,” he continues. “You want them to see how thorough you’re cleaning the drain. They’re usually excited because no one has ever shown them this before.”

“I build a camera fee into my rate, but I’m still competitively priced,” he adds. “And customers don’t mind paying my rate because they can see what they’re getting for their money.”

The FlexShaft is easy to use, too, and setup is much faster than larger drain machines. Goodpaster says an operator can push the cable in with one hand while squeezing the drill trigger with the other hand. The drill clamps onto the unit’s standard 5/16-inch, hex-shaped drive shaft, mounted in the center of the machine’s drum. “It couldn’t be any easier to operate,” he says.

PLENTY OF POWER

If anyone is concerned that an 18-volt drill can’t generate enough power to spin a cable fast enough to clean a drain, Goodpaster says the FlexShaft offers enough muscle,

generating a maximum of 2,500 rpm.

“It gives you a lot of power,” he says. “And it spins the chain knocker at the end of the cable at the same number of revolutions per minute as it does at the point of the drill — there’s no lagging or binding up. You don’t have to wait for energy to build up: Those chains are moving almost as soon as you pull the trigger.”

Goodpaster now owns four FlexShaft machines, two K9-102’s and two K9-204’s. The K9-102 sells for around \$880, and the K9-204 is priced about \$1,320. Goodpaster says the machines are a great value, especially for plumbers looking to invest in a high-quality, versatile drain cleaning machine that can handle all kinds of clogs.

“It’s such a small investment, but the return is just huge,” he says. “We’ve never quit on a clogged drain; we always get it open. If I’m, say, the third or fourth contractor a customer has called to handle a really tough clog, I tell that customer I’m the last person they’re going to have to call. That’s how confident I am in this machine and its abilities.” **P**

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Erik Gunn

Are You Ready to Play Demons for Dollars?

For some scary Halloween fun, walk through this financial house of horrors and see if your plumbing business is performing like a dream or causing a nightmare

By Erik Gunn

It's October, the time of the year when we flock to haunted houses, tell scary stories and work up creepy costumes for trick-or-treating. So there's probably no better month to consider the ghouls, goblins and worse that threaten to suck the blood from many small businesses. These money management mistakes can keep you up at night in terror.

Read on to learn about the horrors that can haunt your operation if you're not careful. But fear not: Knowledge is freedom. And demons like these don't need an exorcist to banish them — just some care and common sense.

1. Keeping sloppy records. There's no end of mischief that can result if you don't have a clear, concise bookkeeping system that can show you in an instant what's going out, what's coming in, who has paid you and who hasn't, what bills you owe and what you've paid.

Ideally, you're keeping your books with appropriate computer software that fits your budget, can be used to track trends, alerts you to overdue bills (whether you owe them or they're owed to you), and integrates with your bank account so it's always up to date.

But even if you're still old school enough to trust the good old paper ledger for these records, at least make sure you're using one. Keep it well organized and up to date. And remember, the better you are at doing the second of those, the easier it is to do the first.

2. Mixing personal and business expenses. You'd think this would be a no-brainer. You'd be amazed how often it happens.

Maintain a checking and savings account, along with one or more credit cards, that are *only* for business income and expenses. The better you are at keeping those separate from your personal transactions, the less trouble you'll

You've heard the old joke: "I lose a few dollars on every sale, but I make it up on volume!" It's fine to aim to be the least expensive alternative, but first make sure you're covering all your costs and earning an appropriate return.

have documenting expenses and income at tax time and the lower your risk of having a legitimate expense questioned or disallowed in an audit.

3. Overspending because "Who cares? It's deductible!" It can be so tempting, especially to people just starting out in business, to spend more than you should. "I need that," you say. "And after all, I can take the price off my income and pay less in taxes."

All true. But remember this: When you reduce your taxable income, you're cutting your profits. Or to put it another way: For everything you buy that's deductible, you still had to do the work so you could pay for it. Business expenses should be for what you need and should be budgeted for as best you can. And on the flip side ...

4. Underspending because "Who needs it? I'll just do it the way I've always done it!" Some people learn the lesson about demon No. 3 just a little too well — and skimp on necessary expenses because they're afraid to spend money. When new technologies come along or old tools wear out, be willing to spend appropriately to make

Continued ▶

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sure you have the equipment that will do the job for you. And speaking of skimping ...

5. Skimping on advertising and marketing. Yes, the world has changed from the days of radio spots or phone book ads. But some form of advertising and marketing is still necessary to draw the attention of potential customers. Word-of-mouth is good, but it's not enough. Knowing which particular marketing channels work best in your community and for your kind of business can be a challenge. But that's no excuse for simply ignoring the importance of getting the word out about what you do.

6. Deferring maintenance on the tools of your trade. It doesn't matter why you're putting off routine care for your tools and vehicles. Maybe you think you don't have time or you figure you can save money on your bottom line. Wrong. There's no savings in a truck that wears out faster because you decided you didn't have to get the oil changed as often.

7. Failing to seek bids when choosing vendors and suppliers. Most of your customers (no, not all) probably have gotten estimates from one or more of your competitors, at least the first time they hired you. You need to do the same. Loyalty and relationships certainly have their place in business, but they also need to be earned with good service and fair pricing. Don't treat your own wallet any less carefully than your customers treat theirs.

8. Refusing to take credit cards. If you go out on a job, you want your customer to be able to pay you as conveniently and quickly as possible. And that means being willing to take plastic, not just paper. There are legitimate concerns over what policies to observe when accepting credit cards, given that you will have to pay a fee to the card processor. But to flat-out deny credit cards under any circumstances simply punishes you — and probably needlessly turns away business.

9. Hiring by the seat of your pants. We get that it's harder to find skilled tradespeople these days. But simply relying on "instinct" or taking any warm body that walks through the door sets you up for the inevitable cost of employee turnover.

Instead, consult with a human resources expert on how better to assess job applicants, not just for their skills, but for their attitude and how well they'll fit your particular shop. Consider whether you might want to improve the labor pool by working with your local technical school to sponsor apprenticeship programs in your trade.

And if you have a lot of turnover, be willing to look at what you might be doing to contribute to the problem. Do new workers have an opportunity to grow on the job and gain new skills? Are people from diverse backgrounds made to feel welcome? Are your pay scales keeping up with the marketplace? And are employees free to contribute their ideas on how to better do the job?


If the answer to any of those is "no," you've got work to do. Get on it.

10. Underpricing your work. You've heard the old joke: "I lose a few dollars on every sale, but I make it up on volume!" It's fine to aim to be the least expensive alternative, but first make sure you're covering all your costs and earning an appropriate return. If you're getting consistently beat on prices, examine what you might be doing wrong, including making sure customers understand the underlying value of what you offer compared with your competitors.

11. Failing to hire a financial professional. Every business needs someone to do the bookkeeping, but that's not the point here. You also need someone who understands your business finances and can give you advice, both from a big-picture perspective and from a close-up point of view.

That someone is probably a certified public accountant. Ideally, he or she will know your industry, or at least be willing to learn about it in detail and with an open mind so as to give you the best guidance.

BWA-HA-HA-HA

So take a hard look at your business. Are any of these demons lurking in the corners? If so, shine a light on them; then set about ridding them from the premises. That way, Halloween will just be a fun time for kids and candy — and not a hint of haunts to come. 

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Pinpoint Small Leaks

Gas detection systems can offer precise and reliable detection of water leaks *By Jared Raney*

Pumping hydrogen into a pressurized pipe might sound like a recipe for the next Hindenburg disaster, but if done right, it can be an effective leak detection tool.

Tracer gas systems, which utilize either a hydrogen-nitrogen blend or pure helium, offer an uncommon solution that may be exactly the reliable option your company needs to step up its leak detection services.

While it has some potential limitations and isn't the most convenient tool out there, it is precise and can detect smaller leaks than nearly any other method.

HOW IT WORKS

Similar to smoke testing, tracer gas systems work by adding gas to an isolated section of pipe and seeing what surfaces. Metaphorically speaking at least — the gas isn't visible, so technicians walk along the length of the line with a gas detector.

“A lot of beginners find it a lot easier to use gas than listen for a leak.”

Brian Moss

“Essentially, you're pumping helium right through the line, and wherever the leak is, it'll come out of the pipe there and rise to the surface so we can detect it with a handheld meter that picks up concentrations of the gas,” says Peter Viola, owner of Underground Surveying in Brookfield, Connecticut.

Because it is measured with a digital sensor, it eliminates some of the human error and ambiguity that naturally comes along with other methods.



▲ A leak in a high-pressure waterline is exposed after detection and excavation.

The biggest drawback of tracer gas is that it requires the pipe in question be emptied and isolated, a time-consuming process that requires some plumbing know-how.

“Our guy who does it was a plumber for 10 years, so that definitely helps out; whereas, if somebody comes in without the plumbing experience, they're going to be handicapped in what they can do,” Viola says. “It's definitely something that if you're just hiring guys off the street with minimal knowledge, they are going to have a little more trouble doing this particular service than teaching them acoustics, because it requires a little handiwork at times.”

On the other hand, if you have a plumber who can do the setup, the leak detection process itself can be done with less training than methods like acoustic.

“A lot of beginners find it a lot easier to use gas than listen for a leak,” says Brian Moss, owner of RJM Equipment Sales, a dealer of utility equipment.

There are systems that utilize 100% helium or a mix of 5% hydrogen and 95% nitrogen. The low percentage of hydrogen makes it noncombustible. Some systems can use either gas. The concentration of helium or hydrogen makes the gas easier to detect and the method more effective. But

◀ The M300D is a three-in-one locator that can listen for water leaks, detect hydrogen and locate plastic pipe.

▶ A technician runs a helium detector across a gas-infused waterline to pinpoint the location of a leak.



it's also resource intensive. Some will mix their helium with air, but it is a balance between cost and effectiveness.

“Those are both lighter-than-air gases, so the molecules are going to

work their way to the surface,” Moss says. “I haven't compared them side by side, but I think they both work just as well, because while the hydrogen is diluted to 5%, the sensors will detect it to lower levels because it's more reactive. Another important difference is that quite often suppliers don't have helium available, and it's more expensive. With hydrogen, you do have to plan ahead a little bit and have it mixed for you.”

BEST USES

Most commonly used for residential and small commercial applications, it can become tricky for large systems because the section to be tested has to be cleared and pressurized. Commercial and municipal customers usually don't like shutting off service, even briefly.

Despite requiring some setup, it can be a faster method than smoke testing, or even listening, depending on the experience of the technician. Viola says it usually takes his team about an hour to perform this service on standard residential jobs.


The systems aren't bulky in and of themselves, but carrying the necessary amount of gas to job sites can be cumbersome. Both the initial investment and buying gas for each job make this a relatively costly option.

Locale can influence the decision, as it is best for areas with deeper lines and a prevalence of nonmetallic pipes.

“We find it's a good tool to use when you have plastic pipes, because if you're doing acoustics, you have to know

exactly where the line is; but if you have a plastic pipe and you can't get the exact location, sometimes that's OK with tracer gas,” Viola says. “If you have a rough idea and you pump the gas in, it's also going to show you where the line is, so it can actually help you locate the line when at times you can't find it. So that's just another little advantage to using it sometimes.”

Viola's company started out with just acoustic leak detection but found that due to the atmospheric limitations and difficulty with inexperienced staff, it wasn't reliable enough on its own.

“We had so many failures with acoustics early on — some of it was just learning the service ourselves, getting the ear, getting used to hearing the leaks,” he says. “But at the same time, we realized that acoustic definitely has its limitations, so we were just trying to reduce the limitations that we had, to give us a better chance of finding leaks. Often, where other methods fail, you end up using tracer gas and it works; it does the job.” 

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Randy Lorge

It's Time to Argue

Without arguing, how do you convince someone to do the right thing?

By Randy Lorge

The simple definition of the word “argue:”

- *To give reasons for or against something; to say or write things in order to change someone's opinion about what is true, what should be done, etc.*
- *To cause (someone) to decide to do or not do something by giving reasons.*
- *To disagree or fight by using angry words.*

At church the other day, our priest opened the homily by stating, “We have become a society where it is no longer OK to argue with each other anymore.”

My first thought was, “Really? Have you turned on the news or read social media lately? The world is full of arguing!”

But then as he spoke more, it occurred to me that I wasn't following what he was saying. He didn't say that society doesn't argue. He says, “It's not OK to argue with each other anymore.”

And if I don't argue with you, how can we fight together to make a change?

Think about that for a second.

To argue is to express your opinion about something. As I thought more about it, I think he's correct. We have become a society where there is no room for middle ground. And when an argument occurs, we hold our opinions as right and others as wrong without giving consideration to the purpose of the argument, which at the very least is to consider looking at something differently.

LET'S ARGUE

Argument 1: Water is a basic human right, and everyone in the world is entitled to it. We as an international community must do more to ensure everyone receives it.

According to the Centers for Disease Control and Prevention, 780 million people around the world do not have access to an improved water source. Improved drinking-water sources should, but do not always, provide safe drinking water and include:

- Piped household water connection
- Public standpipe
- Borehole
- Protected dug well
- Protected spring
- Rainwater collection.

That's approximately 9% of the world's population. Of that number, approximately 1.6 million Americans still don't have hot and cold running water, a bathtub or shower, or a working flush toilet. Millions more don't have clean water that's safe to drink.

In June, I worked with my www.iwsh.org team on the Navajo Nation reservation located on the Arizona/Utah border in a very remote mountainous region. I witnessed firsthand three families' homes where they didn't have water — much less a safe sanitation system. Did you know that a total of 40% of the 173,000 residents of Navajo Nation lack access to clean, safe drinking water?

These families had to travel several miles through treacherous terrain to fill containers and transport it back to their homes. In one week's time, we installed three 1,200-gallon water cisterns — which could be filled by water tanker trucks, and water distribution systems with photovoltaic-powered pumps. We also installed the sanitary drainage for each home and septic systems for safe disposal of the wastes.

Argument 2: Safe disposal of sanitary wastes must be provided to *everyone* around the world. Access to proper sanitation is also considered to be a human right, not a privilege, for every man, woman and child. In today's modern world there is no acceptable excuse for civilized humans to live without these systems.

According to the World Health Organization and UNICEF, in 2015 only 68% of the world's population used improved sanitation facilities, with sub-Saharan Africa and Southern Asia having only 30% and 47%, respectively.

Improved sanitation facilities usually ensure separation of human excreta from human contact and include:

- Flush or pour-flush toilet/latrine to:
 - Piped sewer system
 - Septic tank
 - Pit latrine.
- Ventilated improved pit latrine.
- Pit latrine with slab.
- Composting toilet.

An estimated 2.4 billion people are still without improved sanitation. About 13% of the world's population lives without any form of sanitation and practice open defecation.

As I mentioned earlier, my www.iwsh.org team and I installed three septic systems last month on the Navajo Nation reservation. Prior to having these systems, the homeowners used pit latrines. The region we worked in experiences sweltering heat in the summer and extreme cold in the winter. You can imagine the challenge it is to simply use the latrine and the unsanitary conditions, which they must endure.

Prior to my involvement with my team, I would have been hard pressed to believe that the conditions I've written about exist in the United States of America. For some reason it was easier for me to believe that these conditions could only be found in underdeveloped countries of the world. But as I dig deeper and become more aware of my very own surroundings here in the USA, I've come to realize that these conditions literally exist right under our very own noses.

Just to give you another example of the horrific conditions some Americans are living in, two counties surveyed in the Black Belt region of Alabama revealed upward of 50% of the rural residents have raw sewage discharging on the ground surface due to failed septic systems.

This is unacceptable.

THE NEED FOR THIS ARGUMENT

The World Health Organization reports that some 829,000 people are estimated to die each year from diarrhea as a result of unsafe drinking water, sanitation and hand

hygiene. Yet diarrhea is largely preventable, and the deaths of 297,000 children under the age of 5 years old could be avoided each year if these risk factors were addressed.

I started this article with the definition of the word "argue" and the statement that "It's not OK to argue with each other anymore."

If I don't argue with you about this topic, then how will I change your opinions about what is true and what should be done? If I don't argue with you about this topic, then how will I cause you to decide to do or not do something?

And if I don't argue with you, how can we fight together to make a change? 📧

Randy Lorge is a third-generation plumber and the director of workforce training and development for the International Association of Plumbing and Mechanical Officials (IAPMO). Lorge is also a member of the planning team for the International Water, Sanitation and Hygiene Foundation (IWSH). This 501(c)(3) foundation has completed water and sanitation projects for those less fortunate in India, South Africa, Indonesia and, more recently, the United States. 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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Spend Money Wisely

You won't see a good return on every new business investment. Learn from these mistakes.

By Joan Koehne

Operating a successful business requires astute money management. Yet all business leaders can pinpoint a time in their career when they threw money away on a venture that didn't go as planned. When you don't earn the anticipated return on your investment, the most important thing is to learn from that experience.

Brian Smith, owner of X Rooter Sewer & Drain Cleaning in Rhinelander, Wisconsin, says his biggest money waster was his company's venture into septic pumping. About 15 years ago, Smith bought a septic truck and a 100-acre farm to spread waste, and the company started pumping septic tanks.

Things didn't go as planned. X Rooter was losing money, in part because another company was lowballing and keeping rates down. He wasn't able to devote more time to the septic service, so he sold off the business after a year. The company experienced about \$100,000 in losses.

Smith learned a valuable lesson from the company's short-lived expansion into septic pumping: Focus on what makes you money. For X Rooter, the focus is sewer cleaning, drain cleaning and video inspections.

"Septic pumping wasn't a good fit for the company," Smith says. "It was stretching me too thin."

While X Rooter no longer pumps septic tanks, the company remains closely associated with the septic service industry.

"I work with septic pumpers, and they give me business and I give them business. It's a win-win situation," Smith says. "They can focus on where they make money, and I focus on where I make money."

ADVERTISING WOES

Sinking money into ineffective marketing can be a big money waster, says Hugh McLaughlin, owner of 88 Drain in Tucson, Arizona. McLaughlin says hard solicitations like billboards, direct mail flyers, phone book ads and taxi roof signs are no longer worth the money.

"Now, everybody goes to the internet or their phone," McLaughlin says.

Yet digital marketing can be just as big a money waster as print ads, he says. 88 Drain determined it was wasting money on pay-per-click ads that cost \$5 to \$7 per click, whether or not the click resulted in a sale. The company also pulled out of online referral services, like Angie's List and HomeAdvisor, because it was competing against other aggressive contractors for the same leads.

Instead, 88 Drain uses its website as the hub for digital marketing by regularly updating the site with customer reviews and monthly specials. Without spending money on advertising, 88 Drain is ranking well organically on search engines.

"Our marketing dollars have gone to almost nothing.

Continued ▶





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We focus on having our guys encourage clients to go to the website and leave a review,” McLaughlin says.

Ben Smith, owner of Marvel Sewer and Drain in the Minneapolis area, also identified advertising as a big money waster. He says one-time ads in school calendars, sports schedules or “best of” pages don’t provide a good return on his investment.

“Specifically, the ads that are \$200 to \$300 have never done anything for me, and I hardcore track everything,” Smith says. He says \$295 is the “I gotcha price — the price that someone will most likely say, ‘OK. You know, that might work. Here’s some money.’”

SEEING RESULTS

Instead of wasting money on flash-in-the-pan promotions, Marvel Sewer and Drain partners with a marketing firm for comprehensive, ongoing campaigns. The company also gives away its trendy superhero-theme branded coffee mugs, shirts, caps and can covers. Marvel Sewer and Drain spends more in the long run for its ongoing marketing strategies, but it also experiences better results.

One thing that doesn’t cost a penny is the company’s commitment to customer satisfaction. By focusing on service, Marvel Sewer and Drain does little things to please customers, like arriving on time, being courteous and cleaning up after themselves.

“Building that customer rapport is what’s really driven my business since day one,” Smith says.

Likewise, satisfied customers are key to success for LH Plumbing Services in Fairfield, Ohio.

“My best marketing strategy is word-of-mouth and referrals,” says Linda Hudek, owner of LH Plumbing Services. “Any money I’ve put into marketing in the past has been fruitless.”

Despite not investing in advertising, Hudek has more work than she can handle — but this wasn’t always the case. When she started her business in 2010, Hudek was looking for commercial plumbing jobs in the area. To access business leads, blueprints and invitations to bid, she subscribed to an online resource. Looking back, Hudek says she should’ve saved the money on the annual subscription. Over time, she found inexpensive ways to find leads, like talking to the contractors she knew.

Another unnecessary expense for Hudek is the finance fee she pays on loans. Hudek has had second thoughts after taking out business loans to purchase equipment.

“I wish I would’ve paid cash. I’m still stuck with the payment months later,” she says. She’s learned that it’s better to pay cash for certain purchases — just wait until you can afford them.

“Our marketing dollars have gone to almost nothing. We focus on having our guys encourage clients to go to the website and leave a review.”

Hugh McLaughlin

LEARN FROM OTHERS


A big money waster for Russell Joe Jr., owner of Quality Sewer & Drain Cleaning, has been direct mail marketing. He’s spent \$500 to \$1,000 on several different campaigns but hasn’t gotten a sales lead. The company even specifically targeted neighborhoods where it did a lot of work.

“For every job, we find out how they heard of us,” Joe says. He has yet to pick up a job from the mailers in his service area of North Shore and Cape Ann, Massachusetts. He’s also tried Angie’s List and HomeAdvisor, but he says he’s too busy to be glued to his computer, watching for and responding to leads.

“If you’re just starting out, it might be good to get your foot in the door, but once you’re established and you’re busy, it’s too hard to respond within minutes,” he says.

Before he spends a bunch of money on something, Joe consults with a couple of the friends he’s made at trade shows or through social media. All of them own businesses, and some of them do sewer maintenance and rehab, like Joe. They give and receive advice in a group message or phone call.

“We’ve become good friends and share ideas that way,” he says.

All pumping or cleaning contractors probably have similar money-wasting stories to tell. But don’t feel too bad about a few dollars going down the drain in an effort to build the business. Sometimes entrepreneurial spending pays off, and sometimes it doesn’t. Remember the credo — “Nothing ventured, nothing gained.” 

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Industrial and Commercial Plumbing

By Craig Mandli

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Caleffi North America PresCal

The **Caleffi North America PresCal** pressure-reducing valve is certified to NSF 61 (at 180 degrees F), ASSE 1003, CSA B356 and NSF 372 to meet U.S. and Canadian Low-Lead laws and code requirements. A preadjustable knob has a wide 15 to 90 psi adjustment range. The setting is visible from the front and back for ease of viewing and includes tamper-proof locking screw. A removable, self-contained cartridge with a stainless steel mesh filter provides maximum debris protection and convenient in-pipe maintenance. A conical seat and shuttle design with a large cross-section flow chamber minimizes pressure drop within the valve, resulting in superior falloff performance compared to marketplace alternatives. A wide range of tailpieces allow for connecting to virtually any piping material or mix of materials. Standard dual unions allow for ease of assembly and service. It is available with a 100 psi gauge to confirm set pressure for troubleshooting. **414-238-2360; www.caleffi.us.**



Fittings

Brasscraft Thermal Excess Flow Valve

The **Thermal Excess Flow Valve** from **Brasscraft** not only maintains the properties of the company's original Excess Flow Valve, but adds further protection against gas-related fires and explosions that provides even more protection for the home and family. In the event of a catastrophic rupture or disconnect, unrestricted gas flow forces the diaphragm to firmly position itself against the seat. This immediate action restricts gas flow to help avert a hazardous buildup of gas. The Thermal Excess Flow Valve utilizes a thermal ring that will stop gas flow through the valve when it is exposed to temperatures of 400 degrees F or greater. **877-272-7755; www.brasscraft.com.**



GF Piping Systems lead-free valves

A family of NSF lead-free brass valves from **GF Piping Systems** is designed to handle high loads and strong flow rates. Valve styles include pressure reducing, thermostatic balancing and thermostatic mixing. Compact, direct-acting pressure-reducing valves Type 1319 and 1339 feature suitable control characteristics, even at low flow rates. This design, which offers a 416 stainless steel floating seat and modular construction, allows for a more compact size. The EPDM diaphragm and seals provide superior resistance to strong and oxidizing disinfectants such as chlorine. Available in 1/2- to 2 1/2-inch sizes, these valves handle hot-water temperatures up to 158 degrees F and inlet pressures up to 357 psi, and they comply with NSF 61 and NSF 372. They include a choice of two pressure control ranges, easy cleaning and downstream pressure gauge ports standard on both sides. **800-854-4090; www.gfps.com.**



Matco-Norca stainless steel fittings

Matco-Norca offers commercial-grade stainless steel 304/316 fittings in a range of configurations and in diameter sizes ranging from 1/8 up to 4 inches. Fabricated at an ISO 9001:2008 certified facility, they include elbows, tees, hex and square head plugs, unions, caps, couplings and brushings. Its casting conforms to ASTM A351, and its NPT threads conform to ASME B1.20.1. These RoHS- and MSS SP-114-compliant fittings meet all applicable chemical and physical properties. **800-688-2583; www.matco-norca.com.**



REHAU EVERLOC+

The REHAU EVERLOC+ compression-sleeve fitting system has 26 additional configurations, making transitions between pipe sizes more convenient in single-family and multifamily residential plumbing projects. The system comprises RAUPEX UV shield PEXa pipe in 3/8- to 2-inch diameters, polymer and lead-free brass fittings, and power tools for reliable and safe connections. Designed for no-leak security, the two-step fitting expansion and compression process is performed quickly in any weather, making installation faster than other PEXa cold-expansion fittings and copper. The NSF/ANSI 14 and 61-certified system delivers safe drinking water with no mineral buildup, allowing contractors to create healthy and sustainable residential environments in less time. **800-247-9445; www.everlocplus.com.**



Viega automatic recirculation balancing valve

Viega's automatic recirculation balancing valve ensures a balanced domestic water recirculation system by dynamically changing with varying conditions. The valve helps keep water temperatures more uniform by adjusting flow with changes in temperature. Unlike with manual valves, the temperature can be set once and be maintained automatically. Settings can be changed easily, if needed. The valve can be installed on risers or branches and can be remotely monitored with its temperature sensor. An optional thermometer provides

visual indication of valve setting, and threaded ends allow it to be used with Viega ProPress or Viega PureFlow fittings systems. **800-976-9819; www.viega.us.**

Fixtures

CORRO-PROTEC powered titanium anode rod

The CORRO-PROTEC powered titanium anode rod is a long-term protection solution for water heaters. As the sacrificial anode already in place in the water heater undergoes a high transfer of electrons in case of aggressive water, the life of the hot-water tank can be affected. By forming a protection layer on the tank walls and its weak points, the powered anode rod provides the water heater with permanent protection against corrosion, regardless of the water hardness. **819-690-7053; www.corroprotec.com.**



QuickDrain USA ShowerLine

Suitable for curbless showers and tub-to-shower conversions in single-family, hospitality and multifamily buildings, the ShowerLine PVC linear drain from QuickDrain USA offers a cutting-edge look and sleek design for projects with tight budgets. The integrated PVC drain, when combined with presloped shower panels and waterproofing accessories, represents a total shower solution for promoting effective and efficient drainage. The ADA-compliant and Uniform Plumbing Code-approved drain slashes installation time, saves on cost and minimizes impact on customers. Drains accommodate finished shower dimensions between 32 inches to 72 inches. **800-321-9532; www.quickdrainusa.com.**



SJE-Rhombus EZconnex

The **EZconnex** four-port float switch connection system from **SJE-Rhombus** is a manifold/float connection system designed for easy installation. The system includes an electrical wiring manifold with mounting bracket and hardware. The manifold features four quick-release float switch connection ports. Red-blue-yellow-white wire pairs match a color-code system on the manifold housing for easy identification and field wiring. The system is rated for short-term water submersion. The mounting bracket is designed to allow quick access to the manifold and float switches for simple maintenance. The system can be used with up to four float switches. Each float switch includes a protective rubber boot, providing a dual seal for an extra layer of protection to keep connections clean and dry. Sealing plugs are available for unused manifold ports. **888-342-5753; www.sjrhombus.com.**



Zurn Industries EZ Gear-Driven Sensor Faucets

EZ Gear-Driven Sensor Faucets from **Zurn Industries** deliver reliability, precision and efficiency to commercial restrooms. With the dual action of the ceramic disc cartridge

and the same motor gear-driven operation found in E-Z Flush units, the faucet is built to withstand over 1 million cycle tests. It intuitively senses the user without delay, too much force or wasting water. It is available in the Cumberland Series and the Camaya Series with matching soap dispensers in chrome (standard) or brushed nickel finishes. The faucets are ADA compliant with a 30-second timeout feature, motor gear-driven ceramic valve, and multiple flow control options to meet Environmental Protection Agency WaterSense standards. **855-663-9876; www.zurn.com.**

Pipe



Omega Flex MediTrac

MediTrac corrugated copper tubing from **Omega Flex** comes in long, continuous, bendable lengths for up to 70% fewer fittings, up to 80% less hot work and up to five times faster installation without closing a facility. It can help lead to lower costs, less risk, up to 55% cost savings and faster renovations. **610-524-7272; www.meditrac.us.**

Pumps

Reed Pump Stick

The **Pump Stick** with cordless power from **Reed** provides a portable, job-site-friendly way to remove water. Applications for the battery-operated liquid transfer pump are numerous. Use with operator's own 18- to 20-volt battery by replacing the battery adapter plate with one designed for common, slide-style batteries. To protect the impeller, choose from multiple screens, strainers and filters to find the right application. It ships with a 2-foot hose, but add extra length with the 4- and 7-foot hose extensions, plus the hose coupling. Its long, slim design allows the operator to place the pump deep into small cavities. It lifts water up to 12 feet. A comfort grip handle at the top brings the pump to 4 feet for operational ease. **800-666-3691; www.reedmfgco.com.**



Wheeler-Rex Model 39300 electric hydrostatic pump

The **Wheeler-Rex Model 39300** electric hydrostatic pump is suitable for certifying fire sprinkler lines, commercial plumbing and industrial testing. It is compact and lightweight for portability, weighing around 30 pounds and features a carrying handle for easy movement. The unit is capable of testing lines up to 300 psi at a rate of 4 gpm. A 10-foot output hose comes standard with the model, but an optional 10-foot intake hose is also available for gravity-feeding the pump. A liquid-filled gauge and rubber-padded feet help provide accurate reading by preventing excessive vibration. It also has a built-in adjustable pressure regulator for precision control. **800-321-7950; www.wheelerrex.com.**



tool extensions while vastly expanding the range of applications the tool can accomplish. This combination of rings and tool allows the user to connect these fittings in one cycle and is lightweight. **800-729-3878; www.milwaukeetool.com.**

Tools

Koul Tools Fitting Fixer

The **Fitting Fixer** from **Koul Tools** utilizes a 37-degree inverted cone with diamond-dust-coated lapping material to resurface the conical sealing area on JIC fittings. It allows the technician to repair a leaky fitting on the spot when replacing it is not possible or would be a major undertaking. The fitting screws into a guide to hold it in place, and the lapping cone is attached to a drill. Simply spin the lapping cone on the fitting's sealing surface until the damaged area is repaired. It comes in 3/16- to 1-inch sizes and works on steel and aluminum fittings. **928-854-6706; www.koultools.com.**



Milwaukee Tool 2 1/2 to 4-inch IPS XL Ring Kit

The **2 1/2- to 4-inch IPS XL Ring Kit** from **Milwaukee Tool** fits directly in M18 FORCE LOGIC Long Throw Press Tools, providing the ability to press Viega MegaPress XL fittings without the use of cumbersome



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Bradley Keltech Tankless Water Heaters

Keltech Tankless Water Heaters from **Bradley** deliver instantaneous ANSI-required tepid water for emergency safety showers and eye/face washes. Drawing energy to heat water only when needed, these tankless water heaters are highly efficient and precise in supplying tepid water at a second's notice — even in extreme work environments. Installation is easy since only one electrical connection and a cold waterline are needed, saving labor time and costs. Designed for dependable, long-lasting performance, all models are precision-engineered with copper tubing and robust brass castings. **800-272-3539; www.bradleycorp.com.**



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Industrial and Commercial Plumbing

By Craig Mandli

Magnetic filter protects old cast iron system



Problem: During a service call at a new house that had two high-efficiency condensing boilers, Pete Zandstra of Grand Mechanical Solutions in Brantford, Ontario, noticed that one of the pumps had failed due to excessive debris in the system. He was unaware of what was causing the corrosion in the system.

Solution: Knowing the benefits of magnetic filters, Zandstra decided to install a **BoilerMag BM/R** from **Eclipse Tools North America**. The residential heating system filter uses magnetic technology that ensures that virtually 100% of iron oxide and scale is removed on the first pass. The filter is designed so the water is fully exposed to powerful magnetic rods that draw out the iron oxide that collects in the hydronic heating systems. The unit can be installed and cleaned in minutes.

Result: The BM/R was installed on the cast iron system, and after only 18 hours of operation, Zandstra was shocked by the amount of contamination that was pulled from the system. “I returned within a day or two and was surprised at the amount of metal filings that the BoilerMag had removed,” he says. “This will ensure long operation of the pumps and boiler.” 905-664-5585; www.eclipsetoolsinc.com.

Five-unit tankless system meets hot-water needs of brewery



Problem: The Garage, one of two brewhouses owned by Monday Night Brewing in Atlanta, is a commercial barrel-aging and souring facility for making high-quality craft beers. Opened in October 2017, the 22,000-square-foot facility consumes approximately 10,000 gallons of hot water daily, including 150-degree-F water used in the beer-making process and 180-degree-F water to steam and sterilize the wine, whiskey and rum barrels that give the brews their distinctive flavors.

Solution: David Hardegree and Tim Casper of Hard-Cas Mechanical installed five high-efficiency (95%) tankless water heaters — all of them **NCC1991-DV** condensing units from **Noritz America** — to deliver a maximum flow rate of 16 gpm. Connected in a series, the heaters were preengineered, prefabricated and preplumbed with a system controller as a single, integrated package on a metal rack before being shipped intact to Atlanta. Their combined maximum inputs total 999,500 Btu/h, meeting not only the brewing and sanitation requirements of the Garage’s beer-production process, but also the general hot-water service needs of the rest of the structure.

Result: Besides providing an uninterrupted flow of hot water at the correct temperatures, the multiple-tankless option offers the ability to service any of the five units without shutting down the entire system. 714-433-7831; www.noritz.com.

Continued ▶



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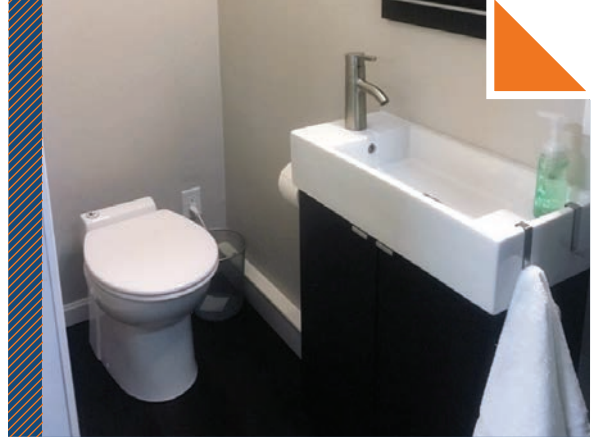


Problem: For a surgery center in New Jersey, an operating room with a broken valve in a hands-free scrub sink had the potential to delay surgeries and shut down the center temporarily while a repair was made. In reaching out to All-Star Plumbing and Heating, surgery center staff were relieved to learn there was a solution that would require minimal downtime.

Solution: Matt Fleming, vice president of All-Star, and his team utilized the RIDGID RP 241 press tool to repair the valve. The compact press tool is ergonomically designed to simplify overhead and tight-space press work. It enabled All-Star to make the repair while water was still in the line and without torches and open flame. This meant the difference between closing the surgery center during the repair and isolating the area needing to be shut down to one operating room.

Result: A repair that had the potential to close an entire surgery center for three to four hours, delaying needed surgical procedures, was cut in half and contained center shutdown to one area. The ability to streamline tools needed and eliminate open flame also reduced the number of elements potentially contaminating a sterile operating room and creating hazards near flammable medical supplies. **800-474-3443; www.ridgid.com.**

Plumber installed dual-flush toilet system in own home



Problem: Plumber Bret Mischler needed to turn a 3-by-10-foot closet into a half-bathroom in his own home in Terre Haute, Indiana, despite the lack of below-floor drainage.

Solution: Mischler decided to purchase the one-piece **Sanicompact** dual-flush toilet system from **SANIFLO**. This above-floor plumbing system can pump waste up to 9 feet vertically and 120 feet horizontally, sparing Mischler the time-consuming and costly task of creating new, below-floor drainage. Operating with either 1.28 gallons or 1 gallon of water per flush (depending on whether solids or liquids are being removed), the compact toilet also allowed Mischler to save water. It combines a built-in macerator with a floor-mounted toilet bowl, measuring only 14.5 inches wide and 21.5 inches deep. That makes it suitable for tight areas, such as Mischler's closet, where installation space is limited. The interior of the unit houses a pressure switch and a circuit board assembly, which starts and stops the unit; and a 0.3 hp motor, which drives the macerating blade and the pump. This motor is sealed for life in an oil-filled enclosure. A common spindle/shaft drives the impeller and the blade, keeping the moving parts to a minimum. Water and organic waste matter enter the chamber and are quickly reduced to slurry, as the blades rotate at 3,600 rpm. The reduced solids are discharged through a 1-inch, rigid pipe by the impeller mounted beneath the motor.

Result: The Sanicompact has performed without a hitch for Mischler. With so few moving parts, the system has proven to be an almost soundless solution. **800-571-8191; www.saniflo.com.**

Continued ▶



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Plastic used in repiping of historic building



Problem: The Hollywood Roosevelt Hotel in Los Angeles needed to renovate 235 guest rooms on 10 floors while remaining open for business, operating at a capacity level of around 90%. Installing a new plumbing system in a historic building, especially under such challenging conditions, can be complex and difficult.

Solution: These challenges led Shamim Engineering to specify plastic piping, rather than copper, to handle the massive repiping job in a timely, cost-effective and unobtrusive manner. Polypropylene piping was used for large-diameter lines in the mechanical room and for the vertical risers from the ground level to 10 guest floors. Inside the guest bedrooms, **Uponor** cross-linked polyethylene (PEX) piping that connected the toilet, sink and tub to the risers. Roughly 14,300 feet of PEX — in six different sizes, from 1/2 through 2 inches, was installed. Branch lines from the corridor piping to the guest bathrooms were straight runs with no breaks. As a result, there was no need to make connections that would slow installation. "With copper, there would have been so much more cutting and soldering, which would have added significant amounts of labor and materials," says Andrew Valenzuela, director of field operations for the general contractor City Constructors. "Also, with PEX, relocating a run or a stub-out because of an error or miscalculation is so much faster and easier."

Result: The hotel's choice to use PEX not only significantly cut installation time, but also helped to avoid inconveniencing hotel guests. "Copper has its place, but with all the tight spaces we must inevitably run our plumbing through, PEX is so much better," Valenzuela says. "Ease of installation was probably our best friend." 800-321-4739; www.uponor-usa.com. P



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Product Spotlight

Compact, lightweight camera system aimed at making more efficient workdays

By Craig Mandli

When a plumber looks for an inspection camera, ease of use is often the most important selling point. Electric Eel recently introduced the eCAM Ace 100-Micro pipeline inspection camera system specifically to make plumbers' and drain cleaners' jobs easier.

The eCAM Ace 100-Micro doesn't require the use of a dedicated monitor. Instead, the plumber can use a device he likely already has with him, which not only saves time, but decreases the amount of tools he needs on the job site. According to Mark Speranza, vice president of sales for Electric Eel, that feature alone is great for plumbers.

"The Ace 100-Micro allows the operator to use his own mobile device, such as a phone or tablet, as a monitor," he says. "That makes using it quick, easy and convenient."

The compact eCAM Ace 100-Micro delivers everything a plumber or drain cleaner would need to perform quick inspections in pipes ranging from 1 1/2 to 3 inches in diameter and up to 100 feet in length. Weighing in at only 15 pounds makes this camera ideal for easy portability.

"We designed the Ace 100-Micro as an affordable



addition to a mainline inspection system, providing the user the ability to inspect smaller lines," Speranza says. "The unit is extremely portable, which makes it ideal for inspecting downspouts and interior lines."

The system comes equipped with a 512 Hz transmitter and a resettable on-screen footage counter. In addition to the ability to stream video directly to any mobile device, audio and video can be recorded to the mobile device as well. The files are saved on the device and can then be transferred via email or text or accessible via the cloud. It offers a 0.271-inch pushrod

with a 1-inch-diameter camera head. Footage is displayed in feet and meters and is easily resettable. According to Speranza, its compact (10 inches wide by 12 inches long and 16 inches high), lightweight size and portability make this camera user-friendly for contractors, plumbers and homeowners alike.

"Feedback thus far has been extremely positive," he says. "The reaction has been very good regarding the Wi-Fi connectivity and the ability to use a personal device as a monitor." 800-833-1212; www.electriceel.com.

Webstone, a brand of NIBCO, Pro-Pal Ball Drain

The Pro-Pal Ball Drain from Webstone, a brand of NIBCO, is now available with F1960 and F1807 end connections, allowing for isolating and draining any portion of a PEX system more easily. The full Ball Drain lineup also features FIP, SWT, Press, Press x PEX, polypropylene, PP-RCT and union connections in sizes 1/2 to 2 inches. Lead-free dezincification-resistant brass construction is certified to all appropriate codes and standards. 800-225-9529; www.webstonevalves.com.

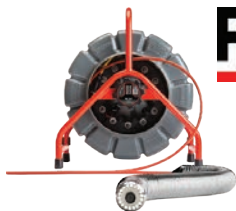


PowerChats

PowerChats AI-powered chat service with real-time alerts

PowerChats is an artificial-intelligence-powered website chat service that specializes in helping home service companies generate and capture more leads by utilizing a user-friendly interface and clear, efficient messaging. It now offers outbound texting capability, expansion of CRM tracking integrations, dynamically changing click-to-call buttons to ensure compatibility with all call-tracking providers and new chat notifications via text message and email. 801-860-1871; www.powerchats.com.

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INDUSTRY NEWS

Midland Industries hires western regional manager

Midland Industries announced that Lisa Heft joined the company as its industrial market western regional manager. She will be working with the company's representatives and customers to grow in the Western region. Heft comes to Midland Industries from Northwest Hydra Line where she worked for more than two decades. She will be based out of Seattle.

RIDGID names Mitch Barton marketing director of Global Press Connection



▲ Mitch Barton

RIDGID announced the addition of Mitch Barton to the Global Press Connection team, where he will serve as marketing director. In this new position, Barton will manage product development, partner relations and new business opportunities for the growing line of RIDGID press tools. He brings several decades of marketing and product development experience to his new role. He previously served as director, global project management for Performance Health in Akron, Ohio.

AquaMotion announces West Coast representatives

AquaMotion appointed two new West Coast representatives: JTG/Muir and Specification Sales. JTG/Muir's territory includes northern Nevada and Northern California, including Monterey, Kings, Tulare and Inyo counties. Specification Sales' territory includes southern Nevada, Southern California and Hawaii. 📍

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The Westin Indianapolis, Indianapolis.
Visit www.phccweb.org

Oct. 11

Central Wisconsin Plumbing Seminar,
Stoney Creek Hotel & Conference Center,
Rothschild, Wisconsin.
Visit www.phcc-wi.org/plumbing-seminars

Oct. 16-18

Service World Expo, Paris Las Vegas Hotel & Casino,
Las Vegas. Visit www.serviceworldexpo.com

Oct. 24-27

American Society of Plumbing Engineers
(ASPE) Technical Symposium,
Wyndham Grand Pittsburgh Downtown, Pittsburgh.
Visit www.aspe.org

Oct. 25

Northwest Wisconsin Plumbing Seminar,
Sleep Inn & Suites Conference Center, Eau Claire, Wisconsin.
Visit www.phcc-wi.org/plumbing-seminars

Nov. 4-7

Plumbing Manufacturers International (PMI)
Conference, The Don CeSar hotel, St. Petersburg, Florida.
Visit www.safeplumbing.org

Nov. 15

Eastern Wisconsin Plumbing Seminar,
Holiday Inn, Fond du Lac, Wisconsin.
Visit www.phcc-wi.org/plumbing-seminars

Jan. 21-23

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

Feb. 3-5

AHR Expo, Orange County Convention Center, Orlando. Visit
www.ahrexpo.com

Feb. 17-20

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

Feb. 21-23

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

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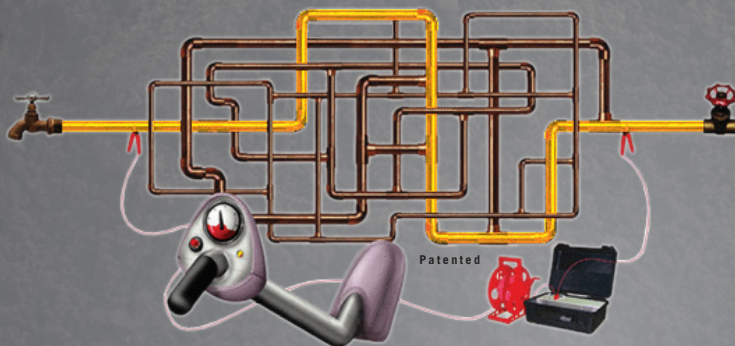
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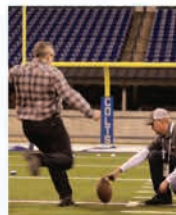
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