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Plumber

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Plumber Profile

To the Rescue

Around-the-clock service and dedicated team help Chicagoland plumbing company see rapid growth.

- By Giles Lambertson



On the Cover

Plumber Azizi Djenkins, with Rescue Plumbing uses a RIDGID sectional drain cleaning machine on a toilet drain in a residential property in Chicago. Djenkins, is one of 29 plumbers with Rescue Plumbing. The company, owned by Benjamin Vance, was founded five years ago and serves Chicago and its suburbs offering general residential plumbing services. (Photography courtesy Rescue Plumbing)

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Cory Dellenbach

Finding Joy in the Pipes

Embracing the passion of plumbing through the work you do and the people you meet

W

e all have favorite parts of our jobs. My favorite part of being editor of *Plumber* magazine is talking to contractors like you, learning about your companies and what makes you tick.

For many of you, it might not just be about fixing pipes; it's often the satisfaction of solving problems and the joy of helping others.

It's the craftsmanship of the trade and the sense of pride that comes with a job well done. It is those moments when you turn chaos into order, restoring comfort and functionality to homes and businesses alike.

ALWAYS SOMETHING NEW

About midway through the bowling season this year, my bowling team was facing off against a team sponsored by a local plumbing company, and the owner of that company is on the team. We started talking about the industry and the plumber said the one aspect of plumbing that he's come to love is the constant opportunity for learning and growth.

I couldn't agree with him more. In this ever-evolving field, there's always something new to discover — whether it's mastering a new plumbing system install or staying up-to-date on the latest technologies and innovations. Every day presents a chance to expand your knowledge and hone your skills, keeping you engaged and passionate about what you do.

As plumbers, you have the privilege of entering people's homes and businesses, often during the worst times possible for them. In those moments, you have the opportunity to not only fix their plumbing problems but also provide reassurance and peace of mind.

There's a unique camaraderie among plumbers that fosters a sense of community and belonging. Whether it's swapping tips and tricks with fellow tradespeople or collaborating on challenging projects, there's a shared understanding and respect that binds you all together. I see that that sense of camaraderie not only enriches your professional lives, but also adds an extra layer of enjoyment to your work.

RELATIONSHIP BUILDING

That plumber I bowled against, and all the others I've talked to for this magazine, all have expressed a common sentiment: That perhaps the greatest joy of all lies in the relationships you build with your clients.

As plumbers, you have the privilege of entering people's homes and businesses, often during the worst times possible for them. In those moments, you have the opportunity to not only fix their plumbing problems but also provide reassurance and peace of mind. The gratitude and appreciation you receive from satisfied customers are priceless rewards that make your job immensely fulfilling.

WHAT DO YOU ENJOY MOST?

Finding an aspect of your job that you love is about embracing the passion and purpose that drew you to plumbing in the first place. It's about recognizing the value in the work you do and finding fulfillment in the difference you make in people's lives.

So, the next time you're knee-deep in a repair, take a moment to appreciate the joy that comes from doing what you love. After all, it's not just about fixing pipes; it's about finding meaning and satisfaction in your craft.

Let me know what you like the most about your job or what drives you each and every day. Email me at editor@plumbermag.com.

Enjoy this issue! 📧

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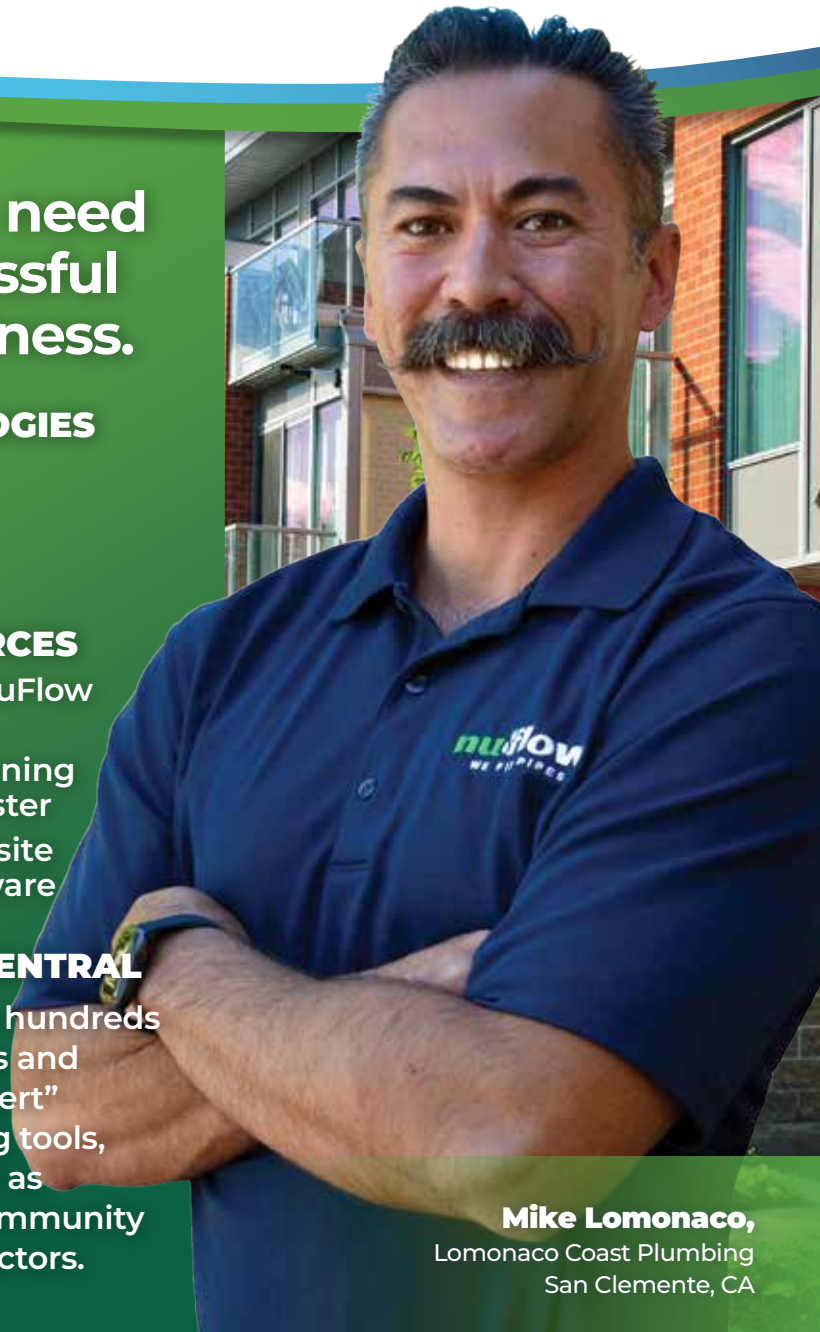
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A PRESSING MATTER

Selecting the Right Press Tool

Press technology was once a seldom-used novelty, but today press tools have become a reliable and accessible option in all commercial and residential plumbing settings. This online exclusive by Joe Devries, a product manager at RIDGID, takes a look at factors to consider when deciding which type of press tool to use for your work.

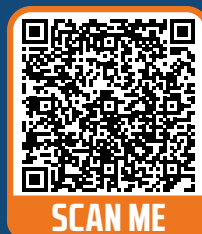
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TITLE SHOT

Qualifying Open for 2024 Plumbing National Championship

The Plumbing National Championship, a contest sponsored by SharkBite and now in its second year, still has its initial round of online qualifying open till June for plumbers across the U.S. Eventually, a Top 5 will progress to the finals and earn an all-expenses-paid trip to West Palm Beach, Florida. Check out this online exclusive to learn more. ▶ plumbermag.com/featured



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Waters Off event, which for three decades now has helped provide free plumbing repairs and inspections to senior, low-income and disabled homeowners. Be sure to sign up for *Plumber* e-newsletters if you haven't already.

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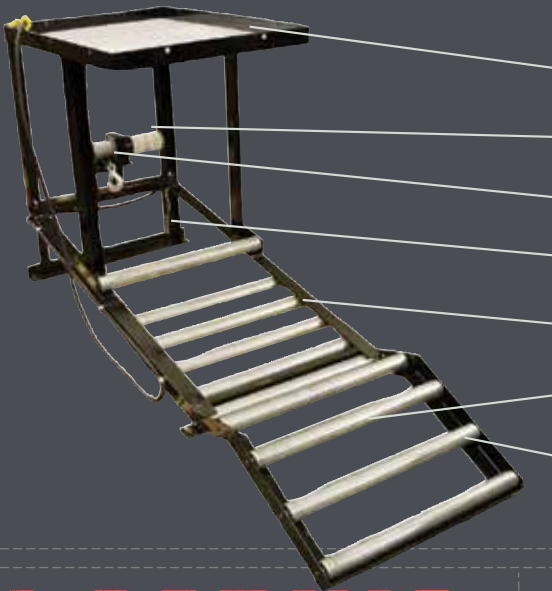


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▼ Benjamin Vance stands in front of some of his plumbing vans at a location just outside metro Chicago. Vance started the company five years ago and has grown it by providing 24/7 emergency services.

TO THE RESCUE

Around-the-clock service and dedicated team help Chicagoland plumbing company see rapid growth

By Giles Lambertson | Photography courtesy Rescue Plumbing



Rescue Plumbing, Chicago, Illinois

OWNER	Benjamin Vance
YEARS IN BUSINESS	5
EMPLOYEES	29
SERVICES	General residential and plumbing services and drain cleaning
SERVICE AREA	Chicago and suburbs
WEBSITE	myrescueplumbing.com
SOCIAL MEDIA	youtube.com/@rescueplumbing

After-hours jobs. Weekend calls. Holiday emergencies. Rescue Plumbing thrives on such service responses. The Chicago, Illinois, plumbing company grew rapidly during its first five years in business by proving to customers that it really is a 24/7 company.

“That’s how I built this company, working nights and weekends,” says Rescue Plumbing founder Benjamin Vance. “We get a lot of work in the evenings, but it often spills over into the next day.”

Vance still comes to the office — actually, to one of seven offices scattered around Chicagoland — by 6:30 a.m. Twelve hours later, he’s usually still working. This year is the first since the company launched that the owner has allowed himself to take off both Saturdays and Sundays.

Such dedication has earned the young company hundreds of five-star ratings on Google, Yelp and Facebook. Why? “We are the only ones that show up,” he says.

Furthermore, the company guarantees customer satisfaction, whatever that might entail, with customer service reps, managers and Vance himself following up as

“I built the company around our workforce and that always makes customers happy because they can see our plumbers are happy.”

Benjamin Vance

needed. “We always make it right. Usually when a customer complains, it’s because of miscommunication. But we make it right. That’s how you get those reviews.”

Customers also say they are pleased by the company’s dedication to completing a task. “Our superpower is persistence,” Vance says. “We will do whatever it takes to get a job done.”

The 44-year-old owner got into the trades working for a construction company in 2008. An economic downturn hit the industry shortly thereafter, and the young Vance went to work for a plumbing company. Pay was “very, very low” and a workweek sometimes was 100 hours long.

▶ Rescue Plumbing owner Benjamin Vance, right, works with two other plumbers on staff as they conduct water quality testing at a commercial job site in Chicago.





- ◀ Plumber Javier Gutierrez works the Spartan Tool drain cleaning machine into the drain to clean it out at a residential property.
- ▶ Rescue Plumbing owner Benjamin Vance holds up a water testing comparator tube as he works on a water quality test at a commercial property in Chicago.



“But I learned the plumbing trade,” he says, looking back at what was a high-turnover workplace. “The plumbers would quit on the owner and I would always be there.”

After three years, though still without a plumbing license, he and another guy finally left to start their own plumbing shop. After Vance earned his plumbing certificate, he realized his career plans were larger than his partner’s, so he exited the partnership and launched Rescue Plumbing from an office on West Webster Street.

FINDING A BRAND

The non-union shop now has five licensed plumbers and five apprentices, with other field employees being sewer techs or drain cleaners. Seventy-five percent of his business volume is generated by residential service calls and the rest commercial. Evening calls are most often from commercial clients.

“During the day, companies including property management people will shop around and call on this company or that one,” Vance says. “But after hours, we are known as the company that always will show up, so they call us.” The company’s “Rescue” branding clearly has paid off, bringing new customers and instilling loyalty in old ones.

Vance volunteered that the bulk of customer calls fall into four categories — clogged pipe, leaking pipe, no hot

water and wanting a free estimate. Yet fixtures and toilets need replacing, too. Garbage disposals quit disposing, sump pumps quit pumping, showers quit showering, and running a camera through that underground pipe seems like a good idea. Rescue Plumbing to the rescue.

The company responds to calls in 10 service vans. Inside them one can find such brands as RIDGID SeeSnake camera systems, Spartan Tool drain cleaning machines, Milwaukee wrenches, Knipex pliers, and Vance’s favorite flashlight, an Inova T4R LED rechargeable unit. “It’s the best flashlight I’ve ever had,” he says. “It’s a lifesaver when you need to look at a T-joint in a drain.”

Vance’s preferred water heater is Bradford White “because I think they have fewer problems.” But problems

Continued ▶

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do occur periodically and, of course, the heaters wear out, so a whole section of the company's warehouse is devoted to Bradford White. When a customer needs a part, in all likelihood Rescue has it in stock.

The company also has a Bobcat E35 mini-excavator with zero tail swing for operating in tight quarters. The machine is hauled to a site at least once a week to trench for a new water line or dig up some of the city's old clay sewer pipe that tree roots have destroyed, according to Vance.

POWER OF MARKETING

Promoting Rescue Plumbing is largely in the hands of another company — Rescue Marketing. It bills itself as “a full-service digital design and digital marketing company.” The firm's creative director is Sara Vance, who happens to be Vance's wife. The firm came into being when Vance became deeply dissatisfied with another marketing firm.

“They were treating me like I was an imbecile,” he says. “They thought I was dumb because I was a plumber. Ridiculous. I knew more than they did about ranking a company online.” Vance persuaded his brother-in-law, Maro Necalli, a website builder, to become operations director of Rescue Marketing. Rescue Plumbing is just one of its clients. “It works really well.”

Vance is a fan of social media as a marketing tool as well as a way to connect with plumbers all over the world. “I've been talking with plumbers in Australia. In fact, I am going to meet one of them when he comes to Chicago. I talk to plumbers in Africa. We're all using the same equipment. We trade videos. When we have a problem, we can all talk about it.”

Vance tried to attract good employees through “job opening” advertisements, but that was unsatisfactory. Now he focuses on taking care of his crew members — and they take care of bringing in new help.

“Before it was very difficult, but now they bring their own people to work here,” he says, a clear dividend of running a quality operation with a good reputation. However, though a new employee might come recommended by an old one, he still has to measure up as a Rescue Plumbing worker.

“If they don't have a good work ethic, I get them out of here,” Vance says. The company culture includes a willingness to help one another. “The plumbers who work here have to get the approval of the other plumbers before they get a truck. We all help each other. If you

“Our superpower is persistence. We will do whatever it takes to get a job done.”

Benjamin Vance

can't do that, you won't be working here. Team players only.”

SAVING THE DAY

Rescue Plumbing prides itself on being there for customers in an emergency. It is a core value for the company. Five years ago Vance says he got to take the rescue ethic to another level.



▲ Plumber Javier Gutierrez uses a Spartan Tool 1065 drain cleaning machine on an outside drain as a residential property. The company's plumbers have Spartan Tool and RIDGID drain cleaning tools on their work vans to be ready for any job.

Finding Ways to Combat Crime

Benjamin Vance had to hold off on an interview for this article because he was waiting on a Chicago Police Department detective. Crime in the Windy City is becoming an everyday cost of doing business.

The Rescue Plumbing founder postponed the interview because he didn't want to miss an opportunity to talk to the law enforcement officer. After all, when his car was broken into a while back, he never did get a call back from the department.

"The hands of the cops are tied," he says, indicating his conviction that it's public policies that are causing the problem. "We have to talk to aldermen and city officials."

He also is talking to customers, and they're not pleasant conversations. The morning of the interview, Vance had to call a longtime customer and apologize for the fact that he no longer would be able to send his service techs to the address. "They're breaking into vans and stealing equipment. In really bad neighborhoods, they come with shotguns and clean out the truck."

He calls them "professional thieves" who are targeting plumbing and HVAC companies. The detective visiting Vance was responding to the theft of a sewer camera from a Rescue work van. The camera systems can cost anywhere from \$6,000 to \$10,000 apiece.

One of the company's seven offices is in Lincoln Park. Says the company owner: "It used to be the best neighborhood in all of Chicago. Not anymore. The bad guys are coming into the good neighborhoods now. They're robbing women at 7 o'clock in the morning. One of my girls was assaulted." Consequently, Vance is considering relocating the office.

He recites incidents of thieving. "Another plumber I know gets hit twice a week. One was hit twice in the same day. One of my other friends who works way south, he has hydrojetting units in his service rigs. He sent me a video the other day in which thieves emptied the van."

The business owner is considering his options. He says he will pay for a concealed carry license for any employee who opts to start carrying a gun. He also is hoping to raise awareness with public officials. "Lawmakers need to know that they need to help us out over here. I got ahold of my lawyer and said, 'Ya gotta do something. We gotta give teeth back to the police.'"

For now, the only recourse the owner has is filing insurance claims for the stolen equipment. But there's a hazard in doing that, too. "I just filed my first two claims," Vance says. "My insurance guy told me that if I continue, my rates probably will go up."



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See How It Works.



Among Vance's learned skills were diagnosing and repairing gas leaks. "I love gas leaks," he says, professionally speaking.

So, when a customer called and complained of a leaking gas pipe, Vance jumped on it. "When I walked up to the place, the smell was outrageous. The guy opened the door and I told him, 'Do not go back in there.' I opened all the doors and turned off the lights."

When the gas buildup had dissipated somewhat, Vance re-entered the house and moved a stove.

"There under the stove was a hatch and in it was a huge natural gas line," Vance says. "It was broken."

He went back outside, where neighbors had begun to congregate, and asked one of them to call the gas company.

Eventually, four blocks were evacuated as a precaution and the pipe repaired. It was news, of course, but Vance said he didn't even get a mention in the story. That's all right. He felt good about it all.

"I didn't charge the guy. I felt like I really had saved someone, not just from a leak. I saved lives."

STARTING A SCHOOL

Ben Vance has an impressive Midwestern work ethic — he was born in a Chicago suburb — yet the real strength of his companies seems to be his vision. He is ambitious in a very focused way.

Asked what he foresees for Rescue Plumbing in the next five or 10 years, his surprising answer is a plumbing school. It is a concept he already has instituted at Rescue Marketing.

"One of the most exciting things that's happened recently is that we created a collaboration and started an intern program at Rescue Marketing," Vance says. "Two college kids from DePaul University set it up. We have young people there now learning search engine optimization and other digital tools."

Vance continues: "My dream is to apply that to plumbing, create a plumbing school where we can train young people as plumbers. We need more young people in the




▲ The Rescue Plumbing team and their vans overlooking the Chicago skyline. The company has 29 employees and covers Chicago and its surrounding suburbs.

trades. Motivating them is our biggest challenge. That's the hardest part. Teaching them how to work, creating in them a work ethic."

Vance himself identifies as a "worker, and our company is for the worker. I built the company around our workforce and that always makes customers happy because they can see our plumbers are happy."

Until the school idea comes to fruition, the long-range goal is to keep Rescue Plumbing saving the day for homeowners and business owners.

"I just want to take care of my guys," the owner says. "I want to keep everyone busy and make a living wage. After all, I've got what I wanted. A wife, two kids, two days off on weekends. My new dream is to come to work at 9 o'clock. Maybe one day I'll achieve that." 

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Jonathan Simon

Eco-Friendly Plumbing

Understanding the factors that affect plumbing system sustainability

By Jonathan Simon

Plumbing is an essential part of sustainability building practices. According to the National Association of Home Builders, sustainable building practices seek to address “a wide range of issues affecting all consumers: rising energy costs, the need to improve air quality, ensure clean water and minimize water usage.”

That’s why it’s not surprising that more builders, engineers and plumbers are considering sustainability when selecting building materials. Here are the factors to consider when evaluating plumbing system material sustainability as well as some third-party tools you can use in your evaluations.

The sustainability of a particular plumbing material, whether CPVC, copper or PEX, is influenced by its embodied energy, longevity and recyclability.

FACTORS AFFECTING PLUMBING MATERIAL SUSTAINABILITY

The sustainability of a particular plumbing material, whether CPVC, copper or PEX, is influenced by its embodied energy, longevity and recyclability.

- **Embodied Energy:** This has become a key sustainability measure for builders and engineers seeking to select materials that minimize greenhouse gas emissions in their manufacture and transportation. Plastic plumbing materials will generally have a lower embodied energy than copper, and CPVC has a lower embodied energy than other plastic plumbing materials. According to data in the National Institute of Standards and Technology Building for Environmental and Economic Sustainability database, over the life of a plumbing system in a small house, the operation of a CPVC plumbing system emits

nearly 1 ton less carbon into the atmosphere than a PEX plumbing system. That’s the equivalent of 105 gallons of gasoline.

- **Longevity:** The longer a product can perform in its intended environment, the less material is ultimately required to support the application. Plumbing materials that are vulnerable to degradation or corrosion from chlorine and other common water treatment chemicals can suffer leaks due to incompatibility with local water conditions that shorten their life. Choosing plumbing materials that are immune to degradation from chlorinated drinking water increases the likelihood that the system will achieve a long life and not need premature replacement. CPVC is the only plumbing material that is immune to chlorinated drinking water.
- **Recyclability:** Like most metals, copper piping is easily recycled. CPVC can also be recycled at proper centers. PEX is not commercially recyclable and must be landfilled.

DESIGN DECISIONS THAT IMPACT PLUMBING SYSTEM SUSTAINABILITY

Design decisions and material selection can reduce water usage, particularly in multistory buildings.

- **Hot water recirculating systems:** The International Energy Code requires these systems for buildings three stories or higher because they can reduce the amount of water that is flushed from pipes in hot waterlines. PEX manufacturers and some building codes limit water velocity in recirculating systems to 2 feet per second to protect the material from accelerated chlorine degradation. That can impact flow rates across the system and may require upsizing the piping to compensate for the reduced velocities, negating the water-saving benefits of the recirculating system. Using a material immune to degradation and corrosion from chlorinated drinking water allows

Continued ▶



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velocities of 8-10 feet per second, eliminating the need for upsizing and allowing the full water-saving benefits of the system to be realized.

- **Manifold and mini-manifold systems:** Remote or mini-manifolds can be an effective code-compliant workaround to a full hot water recirculating system and can also achieve water savings in smaller buildings not subject to the code requirement. But too often mini-manifolds get executed in a way that negates their benefits and increases project costs. This occurs when the mini manifold is located too far from the fixtures it supports, requiring long branch lines that add to material costs without reducing water waste. Design manifold systems that actively minimize the length of branch lines to help ensure the desired sustainability benefits. Home-run style systems are never environmentally friendly alternatives, as they can increase material use by a factor of 10 or more while also increasing water waste.

TOOLS FOR EVALUATING PLUMBING SYSTEM SUSTAINABILITY


There are multiple tools and resources that can be used to streamline the process of selecting the most sustainable plumbing materials:

- **Life cycle assessments:** LCAs can be a valuable resource in selecting the most sustainable material. The LCA provides an objective, third-party quantitative analysis of a system’s cradle-to-grave environmental impact, including raw materials, manufacturing, transportation and end-of-life. In addition, products that have an LCA contribute to LEED credits. Ask the material manufacturer if an LCA is available for their system.
- **Certifications:** Programs such as the Home Innovation Labs National Green Building Standard provide certifications that can be helpful in quickly identifying products that have been independently verified to improve environmental impact measures and support project certification under the ICC-700 National Green Building Standard. Currently, FlowGuard Gold CPVC is the only NGBS-certified residential plumbing system.
- **NIST BEES:** Finally, the BEES software provided by NIST puts a powerful tool for selecting cost-effective, environmentally preferable building products at your fingertips. You can use it to do a direct comparison of the sustainability attributes of different materials.

CHOOSING SUSTAINABILITY

While sustainability is becoming more important to today’s home buyers, it must be balanced against other factors such as performance and reliability.

Fortunately, when it comes to plumbing systems, choosing sustainability doesn’t require compromises in other areas. The most sustainable plumbing system also delivers ease of installation, proven reliability in all water conditions and excellent performance in areas like water pressure and water quality.

Considering all that, there’s no reason not to choose sustainability for your next project. 

Jonathan Simon is the North American residential plumbing manager for Lubrizol Advanced Materials Inc., the parent company for FlowGuard Gold Pipe and Fittings.



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Jake Mazulewicz

The Blueprint for Safety

Follow these process-improvement tips to build a better workforce and reduce costly errors

By Jake Mazulewicz

A technician spills a toxic chemical. She isn't injured, but easily could have been. The hazmat cleanup costs more than \$10,000 and shuts down a critical building for a week.

An electrical engineer flips the wrong switch in a substation control room. He isn't injured. But within seconds, a \$50,000 transformer is destroyed.

Three financial clerks in two different countries are processing payments for a large bank. They intend to schedule a routine \$8 million payment. Antiquated software makes errors hard to catch. The clerks accidentally wind up sending \$893 million instead.

Talking about building a culture of safety and human reliability is easy. But how many great ideas get talked about and never actually get put into practice? The real skill is the ability to transform good ideas into practical steps that you and your people can apply immediately.

There is no one secret or solution. Instead, many successful companies around the world have built a culture of safety and human reliability using a "consolidation of subtleties" — a combination of practical steps like these seven tips:

1. Take a learning-based approach to errors. If you're in a work culture that's stuck in the old-school, control-based approach of eliminating all errors, then consider labeling it that way. "Hey, are we stuck in a control-based approach as we're discussing Tuesday's incident?" The more you label it, the more you'll be aware of it, and the

less you'll be stuck in it. When ready, propose the alternative — the Learning-Based Approach. How? After the next incident or unwanted error, don't start by asking, "What went wrong this time?" Instead, start by asking, "How do you all get this job get done right 99% of the time?"

2. Create psychological safety. It's easy to destroy and challenging to create. Yet research from Dr. Amy Edmonson at Harvard and Google's Project Aristotle reveal that psychological safety is key to successful, safe, engaged and reliable teams. After an error, instead of saying, "Joe failed to do [X]..." ask, "What did Joe do, and why did it make sense for him (at the time) to do that?"

3. Lead after-action reviews, or AARs. For more than 30 years, these psychologically safe, semi-structured, post-job team debriefs have been used by an increasing number of high-hazard industries worldwide. After your next successful, complex project, instead of asking "What could we have done better?" ask these four questions initially developed by the U.S. Army to accelerate learning among the troops: What did we set out to do? What did we actually do? How did it turn out that way? What will we do differently next time?

4. Transform investigations. Traditional investigations often "Name, shame, blame and retrain." The result? Fear, silence and box-checking on corrective actions. The alternative? Instead of asking, "What was the error, and who made it?" ask, "How did our processes set that person up to make that error? And how can we improve our processes to set our people up for reliability and success instead?"

5. Apply defenses. Peer checks. Three-step communication. Checklists. These and other simple, yet powerful defenses have proven successful for decades. You can learn them in a few hours, and get real-world results immediately. Pick a task you and your team perform routinely. Consider writing or updating the checklist for that job to include only the three to seven items most often missed. One physician from Baltimore helped save

Traditional investigations often "Name, shame, blame and retrain." The result? Fear, silence and box-checking on corrective actions.



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6. Improve systems. Instead of trying to “fix” your workers, improve your work processes and systems. How? Pick a process you regularly follow. With trusted frontline workers, brainstorm one low-cost, low-risk, low-fear, low-maintenance process improvement that would make it easier to do the right thing in that process. For example, companies with fleets of trucks have dramatically reduced serious injuries and saved millions of dollars each year by simply avoiding left-hand turns.

7. Build resilience. The world’s most high reliability organizations, or HROs, don’t try to eliminate all errors. They don’t create a procedure for everything either. Instead, they build resilience so most errors become easier to detect, recover from, and learn from. How do HROs do this? One method they use is to look for “weak signals,” like the sound an engine makes when it’s just starting to develop a problem. Novices miss weak signals. But experienced workers sense them and act quickly to manage errors before they cascade into catastrophes. So talk with a few of your trusted staff members and identify one weak signal for a complex job you all do. Name that weak signal and what to do about it. Then teach that to your newer workers instead of hoping that they’ll discover it on their own.

MAKING PROGRESS

If these seven steps seem like a lot, don’t worry. Just pick the one that resonates with you the most right now, and discuss it with a few members of your team. When ready, try it out in a low-cost, low-risk experiment. A few small, quick wins will help you build momentum fast. **P**

Jake Mazulewicz, Ph.D., works with leaders in high-hazard industries to work more reliably and safely. He has a decade of experience in safety for electric utilities, and served as a firefighter, an EMT and a military paratrooper. To learn more, visit www.reliableorg.com.



Dave Bailey

Avoiding Callbacks

Ensure your plumber has gone through the whole plumbing system when clearing drains and not just the sink

By Dave Bailey

Nobody likes callbacks, especially those that involve clogged drains. But there is no reason to fear drain calls.

One can take steps to ensure the drain is flowing like new. Not only that but drain calls provide an opportunity to fix issues that your customer may not be aware of.

OPPORTUNITIES AVAILABLE

Before we talk about the steps to a callback drain call, let's discuss the opportunities you might be missing.

If your company provides a free home plumbing safety inspection, some of this will be discovered. If not, take the time to inspect everything they see in front of you. Let's use a kitchen sink backup as an example. Let's also assume this is an initial visit and you are on site and ready to evaluate the issue.

If there is no standing water in the sink, leave it that way. Open the cabinet and look at everything that is plumbing-related, especially the P-trap, waste tailpiece and basket strainer. If any, or all, of these are in very poor condition, is there a chance they will fall apart as you remove them? What conditions are the angle stop valves in? If one were to attempt to close them, would they leak? If there is a disposal that is in bad shape and looks like it may leak one day soon? Look at supply lines, the bottom of the faucet and any other plumbing-related items that may have issues. Has there been a leak that has gone unnoticed? If there is a basement, what condition are the exposed drainlines in? Is there a line of rust on the bottom of the drainline? That could be a sign of a pipe that could leak after a cable is run through it.

Make a note of any conditions that should be addressed while you are on site. List the cost to repair everything you feel needs to be repaired, starting with the clogged drain and then in order of importance after that. This is an opportunity to make those needed repairs and it's the first

Once you have cleared the drain, check under the sink, and in the basement, for any leaks. If you have done a good job of clearing this drain, give it a guarantee.

step in preventing a callback.

On drain calls, callbacks aren't just because the drain backed up again, your customers may call back because the P-trap that should have been replaced, or the rusted-out disposal is leaking. If your plumber had noted this on the initial call, had shown the customer the poor condition of the now leaking part, and the customer refused to have this additional work done, you have a leg to stand on. If not, you're probably fixing that leak for free.

WORKING ON THE DRAIN

Now it's time to check the drain. If the sink is holding water, check to make sure the stopper isn't in the drain. If it is, pull it and see how long it takes for the line to back up. If the stopper isn't in, put it in. If the sink isn't holding water, turn the faucet on and let it run. It's important to know how long it takes for the line to back up. If it backs up immediately, the issue could be in the P-trap. If it takes a long time, the line could have a lot of buildup in it, or the clog is farther away.

Regardless, drop the P-trap. Before you run the line, figure out how far away the closest bathroom is. In a house with a crawl space, or a house on a slab, this is easy enough. In a house with a basement, often the kitchen sink line drops into the basement floor and runs across the floor to the main. When the drainline is run, it's important to know this because you want the whole line to be cleared,

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not just the spot where the clog was. Remember, the goal is no callbacks.

In homes with basements, it's a good idea to plug the floor drain until you've determined the drain is working properly. If you push the clog beyond the floor drain, you may have a lot of black sludge that may back up out of the drain. If the basement is finished, this could be an expensive property damage claim.

Once the line has been run to the main sewer and the cable has been removed from the line, put the stopper in and fill the sink with water. Don't just turn the faucet on to test it. You want the high volume of water to hit that debris, or the loose sludge and to flush it to the main sewer. Just turning the faucet on doesn't give you a high volume of water. When the sink is about halfway full, pull the plug and watch the water level. If it drains completely, fill the sink two more times, and pull the plug. If the line is going to back up again, you want it to happen while you're there.

If the sink drains for a while and then stops, keep the plug out, fill the sink about half full, and let it sit for a few minutes. Sometimes the weight of the water takes time to push that clog to the main. Sometimes you just have to run the drain again until it's clear. No matter how many times you cable the line, run at least three sinks of water to test it. If there is a disposal, use that to force the water down even faster.

GUARANTEE YOUR WORK

Once you have cleared the drain, check under the sink, and in the basement, for any leaks. If you have done a good job of clearing this drain, give it a guarantee.

Protect yourself by noting that any guarantees are void in cases of abuse. If you clear that drain and your customer dumps a bunch of rice down the drain, that will void the guarantee. Make sure your customer understands this.

Following these steps will cut your drain callback dramatically and open the door to additional revenue on each drain call. **PI**

Dave Bailey is the vertical market manager, plumbing for Service Nation Inc. and has 25 years working in the plumbing industry — 23 in the field. If you would like to send a message to him, email dbailey@servicenation.com.

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Septic and Sewer Systems

By Craig Mandli

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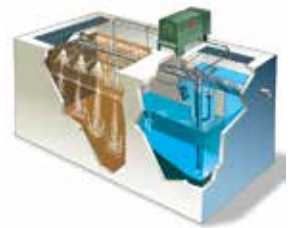
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Pumps

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Ashland Pump's SW40, SW50 and SW75 Series come with cast iron vortex impellers. These impellers have a nonclogging vortex design that enables better passage of materials such as wipes and rags, without compromising performance. The vortex impellers are ideal for handling



modern waste streams due to their low profile and resistance to clogging. Additionally, the pumps have been upgraded to a speed of 3,450 rpm, ensuring the same level of performance as the previous two-vane design model. 855-281-6830; www.ashlandpump.com



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The **envie3** air-filled motor series dry pit submersible pump from **Crane Pumps & Systems** can run in wet applications and in dry pits. These pumps outfit Barnes' and Deming's nonclog and chopper wet ends with a premium efficient/IE3 motor that can run in both vertical and horizontal configurations. The closed-loop glycol cooling system allows for easy maintenance and installation in demanding applications. For easy serviceability, the horizontal installation options include a cart system, which creates a back pullout option as well as a fixed bracket configuration. Install horizontally for a smaller footprint. Vertical installation configurations include a metal and concrete stand that allow for 360-degree rotation for conveniently adapting to existing piping, including tangential discharge pumps. 937-214-9008; www.cranepumps.com

Liberty Pumps ProVore

The **ProVore** grinder from **Liberty Pumps** is designed for use in applications where addition of a bathroom or other fixtures below sewer lines requires pumping. It has the same V-Slice cutter technology used in the Omnivore Series. Powered by a 1 hp motor, this smaller grinder is designed to operate on a standard 115- or 230-volt circuit, requiring only a 20-amp breaker. No special wiring is needed. The pump comes with a 2-inch vertical-style discharge and a standard leg pattern matching the LE Series. This allows for easy retrofit into existing systems. Compact factory-assembled systems are available in simplex and duplex versions: the ProVore 380 and ProVore 680. 800-543-2550; www.libertypumps.com



Polylok PL-CPE4A

The **Polylok PL-CPE4A** is a submersible, 4/10 hp, 115-volt, single-phase effluent pump with a 2-inch NPT vertical discharge. It has a maximum head of 38 feet and a maximum flow of 56 gpm. The pump is designed with a 3,450 rpm oil-filled permanent split-capacitor motor and has an amp rating of 6.6 for 115 volts, a cast iron housing and volute with a cast iron vortex impeller capable of passing 3/4-inch-diameter solids. The stainless steel shaft is supported by two single-row, oil-lubricated ball bearings. The shaft seal is an inboard design with a secondary Exclusion V seal. It has a 20-foot UL/CSA-listed power cable suitable for submersible service and fitted with a three-prong plug. The unit is supplied with an integrated clip for the included piggyback mechanical float switch and used for automatic operation. **888-765-9565; www.polylok.com**



Saniflo Sanicubic 2VX

The **Sanicubic 2VX** lift station from **Saniflo** provides above-floor drainage for multiple plumbing fixtures for a commercial structure, eliminating the need for costlier and less convenient pit installations. It is an ideal solution for projects where conventional, below-floor drainage is impossible or too costly to install. Equipped with two 1.5 hp motors, the lift station is capable of discharging effluent through either 2- or 4-inch rigid pipe and offers a shut-off head of 43 feet. It employs an internal air pressure switch for automatically cycling the unit on and off. The unit also comes equipped with a wired control panel, as well as an external audible and visual LED indicator alarm in the event that a pump experiences overload or ceases to operate. Featuring easily removable circular panels on top, the IP68 enclosure permits ready access to every major component inside. **800-363-5874; www.saniflo.com**

Zoeller Pump 72 HD Series

Zoeller Pump's 10 and 15 hp 72 HD Series is an expansion to its existing grinder product offering now ranging from 1 to 15 hp. The units include a dual carbon ceramic shaft seal, moisture and thermal sensor, a Buna-N gasket to protect the 3,450 rpm motor, and Class F windings. Pumps are available in 208, 230, 460 or 575 volt three



phase. The 3- or 4-inch ANSI flanged horizontal discharge allows for easy adaption to competitor grinder or solids handling rail systems. Pumping performance ranges from 250 feet at shut off and a max flow at 150 gpm at 50 feet TDH. Removable legs clear the bottom of the pump to allow debris to flow easier into the cutter assembly when used with a guide rail assembly. This assembly uses a 440 stainless steel with a Rockwell C hardness of 55-60 cutter and cutter plate in a scissor-like cutting motion that reduces solids down to 1/8 inch. **800-928-7867; www.zoellerengineered.com**

Pump Controls

SJE Rhombus WellZone

The **WellZone** digital controller from **SJE Rhombus** provides pressure control for single-phase two-wire submersible well pump applications. It uses a 0 to 150 psi pressure transducer to monitor the discharge pressure and turns the pump on and off according to the start and stop setpoints. The LCD display is visible through the clear cover of the NEMA 4X enclosure to allow for quick view of the system pressure, run status, hours run and pump cycles. It provides pump protection against rapid cycling, low pressure, run dry, overpressure, overcurrent and undercurrent. It is longer lasting than a standard pressure switch, easy to set up and has a wide range of pressures and pumping differentials. The digital controller is UL/cUL-listed. A three-wire model is coming soon. **888-342-5753; www.sjerhombus.com**



Septic System Bacteria/Chemicals

Cape Cod Biochemical Jump Start

Jump Start healthy probiotic septic starter from **Cape Cod Biochemical** is designed to accelerate the health of septic tanks after pumping or new installation. It prevents clogging, sewage backups and odor drafts from septic tanks, reducing organic sludge, grease buildup and slime layers beneath the drainfield, according to the maker. After the



septic tank is pumped, add 1 pound to a 500-gallon tank or add 2 pounds to a 500-gallon cesspool. CCLS septic tank treatment should be used monthly per label or at the septic contractor's recommended dosage. It is safe for the environment when used according to specifications. **800-343-8007; www.septiconline.com**



Century Chemical Bio-Tab

Bio-Tab from Century Chemical is a tablet that sinks to the bottom of septic tanks where build-up problems begin. There, self-reproducing bacteria and enzymes gradually dissolve to create a growing area of activity, digesting and

liquefying organic waste — treating the entire system, including the drainfield, according to the maker. Common household chemicals such as anti-bacterial products, bleaches, detergents or a heavy presence of antibiotics can kill already-low levels of bacteria in the septic system. When this happens,

waste is no longer being digested, resulting in buildups of solids that plug the system and give off offensive odors. Bio-Tab establishes itself by working from the inside out, and regular usage — combined with routine pumping — can aid and support the natural digestion of waste, helping septic systems maintain good working condition. **800-348-3505; www.bio-tab.com**

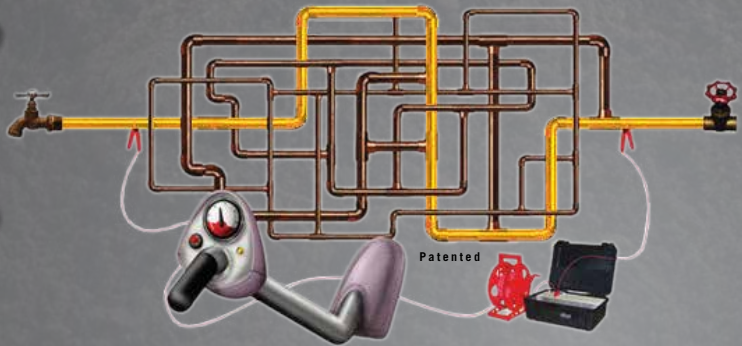
Oatey Hercules Bacta-Life

Hercules Bacta-Life from Oatey is a concentrated powdered product formulated to bacterially repopulate recently pumped septic systems. It is a blend of specialized microbes, potent enzymes, micronutrients and growth accelerators to digest grease, soap scum, starch, proteins, carbohydrates and cellulose/paper. The product disperses quickly on contact with water, and begins to break down deposits and neutralize



Pulsar 2000 Line Tracer

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The **Pulsar 2000** line tracer is designed primarily to locate metallic pipes. The Pulsar 2000 is a directional line tracer. Connect the Pulsar's powerful and unique transmitter to your target pipe and locate only that pipe. Locating can be accomplished under floors, in walls and in ceilings. The Pulsar 2000 does not require grounding.

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odors. It contains no acids, caustics or solvents and is safe for use in all areas of wastewater plumbing. It is designed to enhance the natural biology of cesspools, septic tanks and drainage areas, removing heavy buildup in traps, drains, sewers and sump/lift stations when used on a regular basis, according to the maker. Regular use maintains free-flowing drains and sewers and helps keep septic systems at full activity, the company states. It can also be used in commercial grease traps, for sewer and drainline maintenance, and backyard composting. **800-321-9532; www.oatey.com**



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Septic Tank

Infiltrator Water Technologies IM-300

The **Infiltrator Water Technologies IM-300** lightweight and durable pump tank offers long-term strength and watertightness and is ideal for use as a pump tank or nonpotable rainwater tank. Plastic construction and inboard lifting lugs allow for easy delivery and handling, and structurally reinforced access ports eliminate distortion during installation and pumpouts. It has a full-size 24-inch manhole opening, not common on smaller pump tanks, allowing the tank to accommodate the Infiltrator Safety Star secondary safety lid system which interconnects with custom-fit EZsnap risers. It can be installed with 6 to 52 inches of cover and backfilled with suitable native soil, has no special water filling requirements, and can be pumped dry during pumpouts. Its EPDM gasket design utilizes sanitary sewer pipe industry technology to deliver a reliable watertight seal. **800-221-4436; www.infiltratorwater.com**



Septic Tank Components

Webtrol Pumps EZ-Pull Quick Disconnect



The **EZ-Pull Quick Disconnect** from **Webtrol Pumps** takes the aggravation out of disconnecting wastewater unions in septic tanks. It allows for quick removal or installation of a pump and/or floats, without having to lie on the ground and stick your head into a septic tank. It has a two-piece tapered male and female connection that seals itself into place when you slide the two pieces together. It is injection molded, glass filled thermoplastic with an O-ring that provides a watertight seal even under high head conditions. It is available in 1.25-, 1.5- and 2-inch FPT. **800-769-7867; www.webtrol.com**

NIBCO promotes Lisa Lyon to Webstone GM

NIBCO has promoted Lisa Lyon to Webstone general manager, with responsibility for overseeing all aspects of operations for the Webstone business unit of NIBCO. Bringing more than 18 years' experience to the position, Lyon has been named as a co-inventor on multiple Webstone patents and she founded the brand's Customer Council in 2018 to facilitate ongoing direct connection between Webstone's product development team and the trades.



Caleffi launches The Caleffi Green initiative

The Caleffi Green was introduced to North America at the AHR Expo in Chicago in January. The global initiative defines a path forward with a multi-faceted plan of action for sustainability. An executive leadership team from the company's Italian headquarters attended AHR to launch the initiative. Brand and Content Marketing Manager Federica Beretta, from Caleffi S.p.a., states, "We have launched a project called The Caleffi Green and we have been spreading it out all over the world. Sustainability is not only about processes and products, it is also about people. Every action is important."

PMI names six top executives to Strategic Advisory Council

Six top executives from Plumbing Manufacturers International member companies have been named to the association's Strategic Advisory Council. The executives are Andres Caballero, president, Uponor North America; Jill Ehnes, president, Delta Faucet; Shawn Oldenhoff, senior vice president, category management, Kitchen and Bath North America, Kohler; Bill Strang, president of corporate strategy, e-commerce and customer care, TOTO USA; council chair Todd Teter, president, House of Rohl and WINN EMEA at Fortune Brands Innovations; and Claude Theisen, president and CEO, T&S Brass and Bronzeworks.

Rescue Plumbing celebrating its 5th anniversary

Rescue Plumbing announced it is celebrating its fifth anniversary serving the Chicagoland area. Over the past 5 years, with a team of licensed plumbers, state-of-the-art equipment, and a commitment to staying up-to-date with the latest industry advancements, Rescue Plumbing has successfully tackled a wide range of plumbing issues, ensuring the satisfaction of its customers.


WQA marks 50-year anniversary as trade association

The Water Quality Association is marking its 50th anniversary as a trade association and the voice of the residential, commercial and industrial water treatment industry. A new timeline on the WQA website highlights key milestones of the industry's advancement over the past five decades. WQA was established in 1974 with the merger of the Water Conditioning Association International and the Water Conditioning Foundation, creating a single industry voice to address rapidly growing industry challenges and opportunities. Included in that merger was the Water Quality Research Council, established in 1952 and now known as the Water Quality Research Foundation. Today, WQA has more than 2,500 member companies across the globe.

Blue Chip Plumbing acquires Backflows Unlimited

Ohio-based Blue Chip Plumbing has acquired Backflows Unlimited, a specialized backflow testing company. Established in 1983, Blue Chip Plumbing has been a plumbing partner in the Cincinnati, northern Kentucky and southeast Indiana communities.

Oatey's Women's Resource Network hosts Girl Scouts event

Oatey announced that its Women's Resource Network hosted a special event for two Cleveland, Ohio-area Girl Scouts troops at the company's training center, Oatey University. The event aimed to help the Girl Scouts complete a The House That She Built Girl Scouts patch, encouraging their interest in construction and raising awareness of opportunities in the trades. The event provided a hands-on experience for the Girl Scouts, allowing them to explore the world of construction and build scale models of homes or community structures. Oatey's Women's Resource Network, an associate resource group dedicated to women's professional, personal, and leadership development, guided the Girl Scouts throughout the event. 



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Product Spotlight

Retrofit kit designed for replacing faulty sewage pumps

By Craig Mandli

Every plumber has a story regarding a failed sewage pump. No customer likes to deal with backed-up sewage in their home to start with, and replacing a faulty pump often leads to an additional mess. However, with the launch of the Sanipit 24GR retrofit pump kit, Saniflo believes it has a reliable and hassle-free sewage pump replacement solution.

This retrofit pump kit offers a built-in 1 hp grinder motor and air pressure mechanism that fits most 24-inch basins.

With the ability to retrofit into 24-inch basins from Liberty Pumps, Zoeller, and Myers, the pump kit offers versatility and compatibility with existing pump systems. The current basin stays in place while the Sanipit 24GR retrofit cover easily adapts to it.

“The U.S. retrofit pump market, particularly the cast iron pump segment, has lacked reliable options for installers,” says Regis Saragosti, CEO of SFA Saniflo North America. “Saniflo identified this opportunity and leveraged our innovative design team, extensive research and development capabilities, and vertical integration as a manufacturer to create a game-changing solution. The result is a complete preassembled pump design that delivers the same high level of reliability and performance as our macerator and grinder pumps.”



One of the key differentiators of the Sanipit 24GR is its ability to create a dry cavity within the pit. Its design keeps the components and the motor separate, ensuring a hassle-free and mess-free experience for plumbing installers and service technicians. It includes a 2-inch discharge rubber adapter with a built-in check valve and a 2-inch vent rubber connection, direct access points for motor and air pressure switch inspection and replacement, as well as inspection and cleaning of pressure drip tubes. Its failproof

wastewater-sensing mechanism with triple redundancy provides added reliability. A gasket that protects against odor and sewer gas ensures a sanitary and worry-free operation. It allows for easy access for maintaining all major internal components, including motor, grinder blade and pressure switches. A built-in grinder motor and an efficient air pressure mechanism ensures smooth and uninterrupted wastewater flow, eliminating the hassle of frequent clogs and costly repairs. It offers pumping distance up to 25 feet.

“The U.S. market lacks a product that creates a dry cavity within the pit, one that delivers unparalleled cleanliness and ease of maintenance,” says Saragosti. “Our pump design embodies a failsafe, reliable and easy-to-use replacement solution for existing sewage pits.” **800-571-8191; www.saniflo.com**

Superior Signal 5E FLEX battery-powered smoke blower

Superior Signal's 5E FLEX battery-powered smoke blower is designed for smoke-testing building plumbing and laterals to quickly find faults, odors, leaks and inflow. The 5E FLEX is compatible with leading 18- to 20-volt tool batteries utilizing a high-quality power adapter. The 5E FLEX smoke blower integrates with existing electric tool sets or can run off any 12- to 24-volt DC power source. Smoke-testing is a cost-effective solution ideal for hard-to-find faults



in commercial, residential and municipal facilities. While the 5E blower is popular for a variety of plumbing applications, it is also particularly useful in testing sewer laterals, showing where a fault or leak may occur on private property. Made in the USA, the 5E FLEX comes with an 8-foot industrial-grade hose.

Used with 1A or 2B Superior smoke candles, it creates 4,000 or 8,000 cubic feet of smoke respectively. Superior Smoke candles are also sold in convenient SealPac cans that extend shelf life. **732-251-0800; www.superiorsignal.com/prflex**

U.S. Boiler Ambient hydronic heat pump

The Ambient air-to-water hydronic heat pump from U.S. Boiler Company is for residential customers looking to upgrade their hydronic systems with an efficient electric option. It has a 5-ton capacity (rated at 60 MBtu) and provides reliable space heating with outdoor temperatures as low as minus 13 degrees F. Offering a COP of up to 3.95 and delivering supply temperatures of up to 140 degrees F, the Ambient heat pump offers significant energy savings. Installation is simple, whether the monoblock heat pump is installed in a new residence or is retrofitted into an existing hydronic system. It's also easy to install as a standalone heat source or in dual-fuel applications. The heat pump uses environmentally friendly R-32 refrigerant for high efficiency and low global warming potential. Its DC inverter Enhanced Vapor Injection technology is extremely quiet, with operating sound levels as low as 39 decibels at two-foot distance. **888-432-8887; www.usboiler.net**



Benchmark boilers to create a hybrid plant that maximizes cost efficiencies. It also lowers building peak loads and operational costs by maximizing charging time during hours with off-peak electricity rates. Benchmark E pairs with AERCO's SmartPlate EV indirect water heater for a fully electric heating and domestic hot water plant solution. The boilers are compact, lightweight to easily fit in a freight elevator, and offer easy service access from front and top. **845-580-8000; www.aerco.com**

Caleffi XF magnetic dirt separator

Caleffi North America's CALEFFI XF (Xtra Filtration) magnetic dirt separator designed to provide state-of-the-art protection for today's high efficiency heat pumps and condensing boiler systems. It is equipped with an exclusive first-pass filter featuring an internal scrub brush mechanism along with magnetic and nonmagnetic separation technology. To purge the system of impurities, turn off the circulator, open the blowdown valve, remove the pullout magnet stem from the dry well and rotate the top knob to brush the internal mesh filter free of debris. To reduce hydraulic pumping resistance, a 50% bypass feature is standard on some models. The XF is available in 1-, 1 1/2- and 1 1/2-inch NPT, press and sweat connections. **414-238-2360; www.caleffi.com**



BAM! Bad Ass Mats safety mats

Avoid costly damage to your job sites with BAM! Bad Ass Mats. The mats are made from four-season, durable high-vis

green HMWPE material with a built-in UV protector to guard against fading and cracking. 3/8-inch thick and rated at 160,000 pounds with pressure ratings of 373 pounds per square inch, and 53,700 pounds per square foot, they have a temperature rating of -103 degrees F to 258 degrees F. The 4-foot-by-8-foot sheets weigh 56 pounds and come with 8 large hand holes for easy handling, even with gloves. A dual-side tread pattern provides safe traction for both equipment and pedestrians. Mats don't absorb moisture and chemicals, and can be simply hosed off. **262-877-4700; www.bamgroundpro.com**

AERCO Benchmark E electric boiler

Benchmark E is a powerful, zero-emissions electric boiler from AERCO, a Watts brand. It offers the reliability and energy savings of the original, compact gas-fired Benchmark boiler, in addition to new technology such as peak load management and hybrid plant capability. Benchmark E easily sequences up to 16 boilers, including gas-fired

A. O. Smith Adapt condensing tankless water heaters

A. O. Smith's Adapt premium condensing gas tankless water heaters with X3 Scale Prevention Technology have new features, including an integrated recirculation pump and patented heat exchanger and enhanced installation flexibility. This unit is the first tankless water heater designed and manufactured entirely by A. O. Smith. To enhance installation flexibility, the Adapt line offers 2- and 3-inch dual pipe venting, 1/2- and 3/4-inch gas line options and universal indoor/outdoor installation. The water heaters can be converted from natural gas to liquid propane in the field with an included kit. The Adapt tankless water heaters also include such as Wi-Fi capability for remote monitoring and an integrated recirculation pump that provides instant hot water and eliminates the time homeowners typically spend waiting at their fixture for the water to heat up. **800-527-1953; www.hotwater.com**





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Product NEWS



Milwaukee Tool BOLT safety helmets

Milwaukee Tool delivers advanced slip, trip and fall protection on the job site with the new BOLT safety helmets with IMPACT ARMOR liner.

Designed with RHEON technology, the IMPACT ARMOR liner delivers oblique impact protection and the safety helmet is a part of the BOLT system, allowing users to secure accessories simultaneously for efficiency on the job site. In addition to protection against top and side impacts, the helmets allow users to use multiple accessories at once. The construction safety helmets include a headlamp mount that works with most headlamps for easy, secure attachment and a BOLT marker clip that allows for easy access to pens and markers. The climbing-style helmet also has a comfortable, adjustable chin strap for better security, are ANSI Type 2 and are customizable with the ability to add a company logo in up to four locations on the helmet. **800-729-3878; www.milwaukeetool.com**

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Septic and Sewer Systems


By Craig Mandli

Grinder pump recommended for basement bathroom install



Problem: A homeowner in the Midwest wanted to add a bathroom to his basement. Due to the age of his home, it was not possible to cost-effectively drill the 2-inch hole required for the 500-foot sewage pump discharge pipe his bathroom would require.

Solution: The homeowner's contractor recommends grinding sewage prior to discharge using a **Little Giant 16G Series** grinder pump. The 16G Series features the same cutting mechanism used in larger Franklin Electric models for proven grinding capabilities. The heavy-duty 1 hp Class F motor would provide optimal power to prevent flushables and other debris from clogging, while the discharge is customizable to a user's needs. This would allow the installation of a smaller, more cost-effective 1 1/4-inch hole and discharge pipe.

Result: Not only was the homeowner able to get his basement bathroom, but he was able to save money. Drilling a smaller hole was less expensive and saved on material costs. Since the sewage needed to be pumped out 500 feet, the smaller 1 1/4-inch sewage pump discharge pipe was considerably less expensive than 500 feet of larger pipe. **844-250-4982; www.littlegiant.com** 

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Austin Build Expo, Palmer Events Center, Austin, Texas. Visit buildexpousa.com/austin-build-expo

June 10-12

Women in the Mechanical Industry 2024 Conference, Renaissance Cleveland Hotel. Visit mcaa.org/events

June 10-13

AWWA Annual Conference & Exposition, Anaheim Convention Center, California. Visit <https://events.awwa.org>

June 16-18

Canadian Institute of Plumbing & Heating Annual Business Conference, Delta Grand Okanagan Resort, Kelowna, British Columbia. Visit www.ciph.com

June 26-27

Houston Build Expo, NRG Park Center (Hall E1/E3), Houston. Visit buildexpousa.com/houston-build-expo/

July 31 - Aug. 1

Atlanta Build Expo, Cobb Galleria Centre (Halls C & D). Visit buildexpousa.com/atlanta-build-expo/

Aug. 7-9

Safety 2024 Professional Development Conference & Exposition, Colorado Convention Center, Denver. Visit safety.assp.org

Aug. 28-29

Los Angeles Build Expo, Los Angeles Convention Center (West Hall A). Visit buildexpousa.com/los-angeles-build-expo/

Sept. 22-26

95th Annual International Association of Plumbing and Mechanical Officials Conference, Planet Hollywood, Las Vegas. Visit iapmo.org

Sept. 24-26

WaterSmart Innovations, South Point Hotel and Conference Center, Las Vegas. Visit awwa.org/events-education/watersmart-innovations

Sept. 25-26

South Florida Build Expo, Broward County Convention Center (Hall C), Fort Lauderdale, Florida. Visit buildexpousa.com/south-florida/

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