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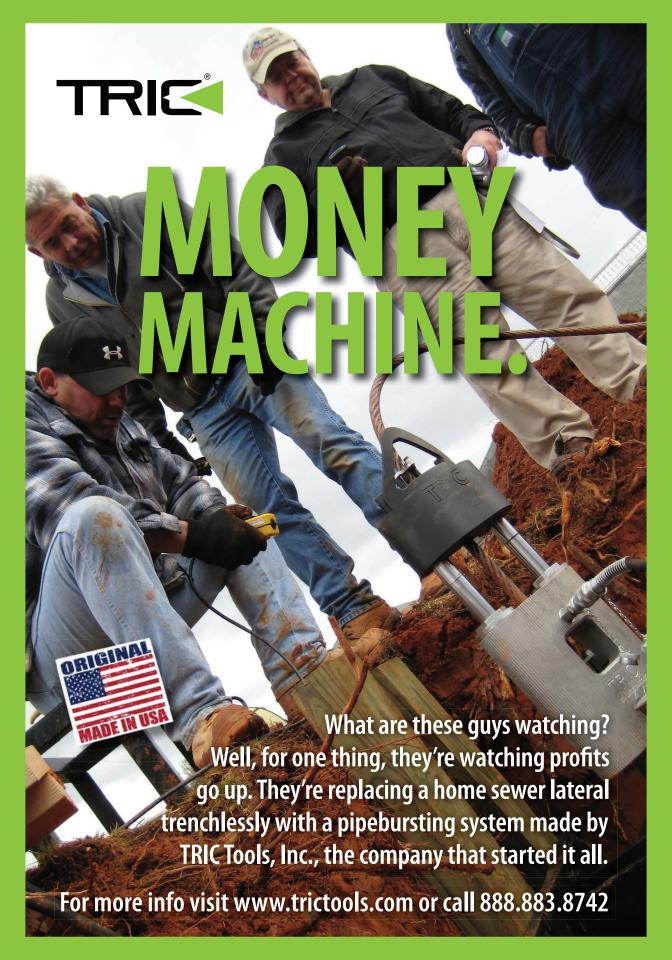
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# The Smoke Detector

of obnoxious odors.

By Ken Wysocky



#### On the Cover

Zeitler Plumbing's Jesse Athey solders a copper pipe and pipe fitting at a new home construction job site. The company, based in Cecil, Wisconsin, with five full-time employees, offers basic plumbing services as well as septic pumping services throughout Northeast Wisconsin.

Photo by Cory Dellenbach

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- ✓ In The Shop: Setting up a training facility in-house
- Plumber Profile: Shelton Plumbing (New Kensington, Pennsylvania)

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- By Cory Dellenbach

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# FROM THE EDITOR



Cory Dellenbach

# Carrying on the Torch

Here are some simple but effective ways to make sure your company stays in the family and remains profitable

t's not easy to follow in someone's footsteps.
People will always judge whether you're truly filling your predecessor's shoes.

We admire those who chart their own

We admire those who chart their own course and attain their own success. It's just as difficult, however, to preserve and further a legacy, to start out on a path that's been cleared and continue well beyond. It can also be very rewarding.

Anyone who's ever worked in a family business knows the extra responsibility and weight it carries. It's not just a business. It's your family's name and reputation on the line. Some fail because they lack the vision and passion to carry on the mission, others use the foundation to reach higher than their predecessors ever imagined.

So it is with Zeitler Plumbing, featured in this issue of *Plumber*. Ed Zeitler took the reins of the business his grandfather and father both ran, now entering its 68th year. Zeitler sought to maintain the relationships and reputation that had been built over years, but he also made the business his own.

Zeitler grew the business by expanding the service area — it now covers a 100-mile radius. The company doesn't just stick to plumbing; it has diversified into septic system pumping. "It's a way to keep the guys busy year-round," Zeitler says.

Evolving the company is just one way an owner can help the family business last. Here are a few other measures Zeitler and his team have taken to make sure the company continues for more generations:

**They are people-focused.** They're about earning a profit, but they also care about their people. Zeitler Plumbing pays fair wages and offers solid training.

Anyone who's ever worked in a family business knows the extra responsibility and weight it carries. It's not just a business. It's your family's name and reputation on the line.

They own their facilities and equipment. Being a property owner gave the company an asset that protected the owners from too-high rents, and gave them an option for obtaining capital if banks otherwise wouldn't lend.

# IS YOUR COMPANY GOING TO LAST?

What are you doing to make sure you can pass your company along to future generations? I'd enjoy hearing your ideas and sharing them in this magazine. You can call me at 800/257-7222 or email me at editor@digdifferent. com. I look forward to hearing your tips.

Enjoy this issue!



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# STRIKING A BALANCE **Plumber Grows Business** and Lessens Workload For years, Cary Hansen felt like he owned just a job, not a true business. He didn't take a salary. Money came in and he bought what he needed. Bills went up and he tried to pay them down. There was no structure, and long hours were starting to take a physical toll on him as well. In 2005, Hansen finally decided to make some changes, and since then his revenues have increased significantly — and he has more free time. If you've had a similar experience — that you're more skilled at plying a craft than running a profitable business -

# THE HARD TRUTH

✓ plumbermag.com/featured

# Educate Customers On Hard Water's Effect on Plumbing

take some lessons from Hansen.

No doubt your customers have heard of hard water. But that doesn't necessarily mean they understand it, how it affects their plumbing, and what to do about it. This basic tutorial can help you educate them. Then learn how you can



help them select a water softener that fits their needs. ◢ plumbermag.com/featured

# OVERHEARD ONLINE

"Make sure you are getting enough bang for your buck when you decide to give something away. Sure, parade goers in your town may appreciate a cold bottle of water with your company name on its custom printed label, but it's a one-time use. A refillable water bottle, on the other hand, can be used (and seen) for years."

- Customers Love to Get Free Stuff, Right?
- plumbermag.com/feature



# **GROWTH TACTICS**

# 3 Common Social Media Mistakes

Using platforms like Facebook and Twitter to reach potential customers is a no-brainer in today's internet age. But actually growing your business with the aid of social media is easier said than done. Take the wrong approach and your efforts will be wasted, never gaining any traction with people. Here are tips on how to avoid three mistakes many companies make with social media. 

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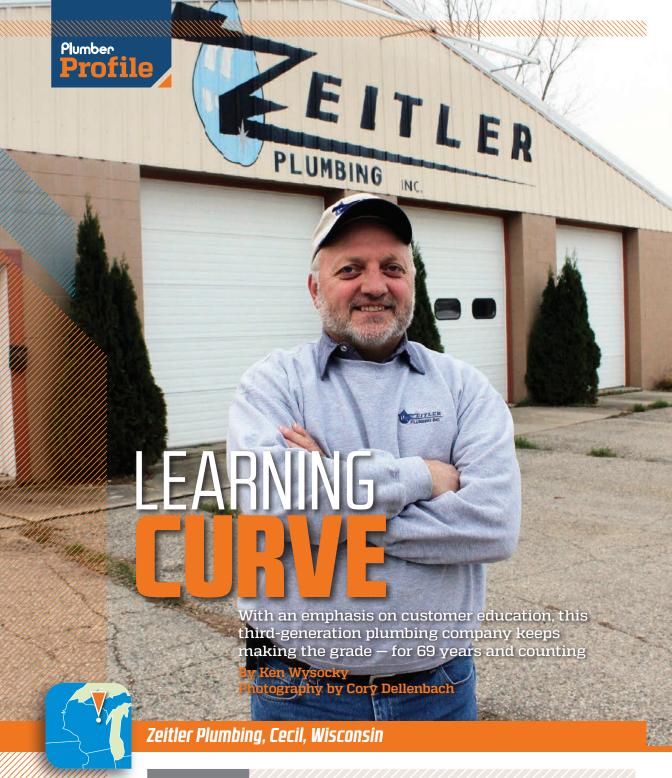
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OWNERS Ed and Bonnie Zeitler

FOUNDED 1948

EMPLOYEES Five

WEBSITE

SERVICES Service plumbing, septic tank pumping, remodeling

and new-home installations

SERVICE AREA Northeast Wisconsin

www.zeitlerplumbing.com

- Zeitler Plumbing owner Ed Zeitler stands outside his shop in Cecil, Wisconsin. The company, with five full-time employees, offers basic plumbing services as well as septic pumping services. Ed's grandfather began the company in 1948. Ed took it over in 1995 from his dad.
- Zeitler's Jesse Athey uses a Milwaukee cordless Sawzall to cut the end of a PVC pipe as he finishes connections at a new home construction.

aster plumber Ed Zeitler has learned an awful lot about plumbing and running a company during his 37 years in the trade. But the owner of Zeitler Plumbing, based in northeastern Wisconsin, says he's learned one thing in particular that has carried his company through thick and thin: An educated customer is a loyal customer.

That's why Zeitler Plumbing technicians are required to always explain to customers the problem they encountered, what they did to fix it and, perhaps most important of all, how the customer can prevent it from happening again, says Zeitler, 57, a third-generation owner of the business, which he co-owns with his wife, Bonnie.

"I expect several things from our technicians: Do a good job. Wear booties. Clean up after themselves. And educate our customers," says Zeitler, whose grandparents, Edward and Margaret Zeitler, established a hardware store in 1948 in the small town of Cecil. The Zeitlers also offered customers plumbing, heating and electrical repair service. "For exam-

ple, a lot of times no one tells customers that it's bad to put coffee grounds down a garbage disposal. The grounds are like sand and wear down the parts. If you educate customers, you might be able to save them a service trip down the road."

But doesn't Zeitler want more service calls in order to make money? Sure, he says, but not at the expense of developing customer relationships. In fact, there are times when Zeitler says he'll talk to customers on the phone after normal business hours and walk them through a repair, or



**1** I expect several things from our technicians: Do a good job. Wear booties. Clean up after themselves. And educate our customers."

Ed Zeitler

maybe help them figure out a temporary fix that'll hold until a technician can get there.

"By doing that, customers gain confidence in you," he explains. "I'm not looking for one-and-done jobs. I want to build good relationships with customers. If I save them money, who are they going to call the next time they need a plumber? It's not always about going out and making a quick buck. Too many companies these days are more concerned about chasing after the almighty dollar instead of helping the customer."



# DEEP ROOTS IN PLUMBING

Zeitler learned the trade, and picked up a lot of his business philosophies, from watching his grandfather and father, John Zeitler, run the family business. He also worked for his father when he was a teenager. After Edward Zeitler died in 1959, John Zeitler bought the family business.

In 1976, a fire destroyed the store and John Zeitler decided not to rebuild it because independent hardware stores were taking a beating from competitors such as chain hardware stores and big-box home centers. Instead, he built a new facility between Cecil and nearby Shawano, and eliminated the heating services.

After a stint in the military that ended in 1980, Zeitler completed his plumbing apprenticeship while working for his father. Then he worked for a large plumbing company in Green Bay before buying the family business in 1995, following his father's death.

Top-notch customer service has been a hallmark of the Zeitler operation for decades, which explains why some families in the area have been clients for 50 years or more — second- and third-generation customers. "I probably know the mechanics of their homes better than they do," he says with a laugh. "I think having such long-standing relationships with customers is unusual because loyalty is almost nonexistent these days. I think it reflects how we treat people well and develop good working relationships a sense of trust.

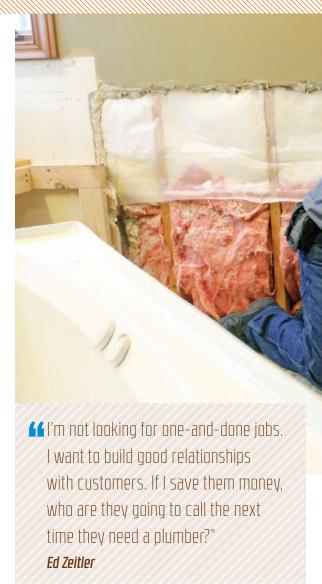
Zeitler also points out that in a survey sponsored by a local media group, Zeitler Plumbing has been voted the area's best plumbing outfit for three straight years (2014 through 2016). "We certainly don't ask people to vote for us," he notes. "So I think the fact that so many of them would take the initiative to fill out a form and vote for us says something about how we treat our customers."

#### **EXPANDING SERVICES**

While Zeitler Plumbing eliminated electrical and heating work from its service offerings over the years, it also added others — most notably septic tank pumping back in 2002. It occurred in a rather random fashion. As the owner of a local pumping service was pumping a septic tank at a house Zeitler owns, he happened to mention he was looking to sell the company and retire.

"I got to thinking about it and a month or two later, we owned the company," Zeitler explains. "We just sort of fell into it. I was younger back then and looking for ways to expand and grow the clientele base."

Septic tank pumping generates a small percentage of



the company's total revenue. But the service still adds value to the business because pumping the tanks often leads to plumbing work. "It helps increase our brand recognition and gets us in a lot of doors we otherwise wouldn't be able to open," he says.

To pump tanks, Zeitler Plumbing invested in a preowned 2002 International truck outfitted by Progress Tank. It features a 4,000-gallon aluminum tank and a pump built by National Vacuum Equipment.

To serve plumbing customers, the company currently runs two service trucks, a 2014 Dodge ProMaster van outfitted by Monroe Truck with a storage system made by Monroe and a 2001 Chevrolet pickup truck equipped with a utility box made by Knapheide. The company also owns a Spartan 81 drum machine for cleaning small drains, three Electric Eel drain cleaning machines and one Milwaukee Tool hand-held drain cleaning machine. "It's very convenient for working in tight spots," Zeitler notes.

- Craig Eslinger cuts the holes for the pipes for a bathtub during a remodeling project.
- ▼ Ed Zeitler (left) and plumber Jesse Athey discuss placement of the final pieces of a Trident well tank (A. O. Smith) installation at a new home construction site near Bowler, Wisconsin.



Read more about the sewer camera Zeitler uses online at www.plumbermag.com



In addition, the business owns a RIDGID SeeSnake pipeline inspection camera; a Magikist low-pressure, hot-water jetter used to remove ice from frozen lines; and a small Honda pressure washer, used mostly for lateral-line jetting.

# **IT TAKES A TEAM**

Roughly 10 years ago, Zeitler Plumbing employed five technicians (including Zeitler himself), plus office personnel. These days, it's just Zeitler, master plumber Jesse Athey, helper Anthony Tucker and office secretary Kathy Hollenback. Zeitler says the company is currently in "rebuilding mode," but a shortage of qualified plumbers is definitely hampering growth.

"Trying to hire a master or journeyman plumber is pretty much impossible," Zeitler says. "There's just not enough of them around.

Zeitler Plumbing owner Ed Zeitler goes over the day's schedule with secretary Kathy Hollenback prior to starting the workday.

# Brand recognition: Radio ads raised plumber's business profile

Word-of-mouth referrals often serve as a plumber's best, and least expensive, form of marketing. But at Zeitler Plumbing in Cecil, Wisconsin, third-generation owner Ed Zeitler says radio advertising has also played a key role in helping his family business thrive.

Zeitler's father, John Zeitler, started running radio ads in the 1970s. The centerpiece of the short ads is a catchy company slogan his father created himself: A flush is better than a full house. And that slogan raised the company's profile even further in 2007, when an advertising salesman from a radio station suggested that Zeitler's children get involved. Zeitler thought the idea had potential and agreed to give it a trv.

It turned out to be a good move. Having children record the catchy slogan made the ads endearing and the slogan even more memorable. Over the years, all three of Zeitler's children — Jacob, now 22 years old; Katie, 19; and Megan, 15 — have taken turns recording the slogan, making them minicelebrities in the community.

"We know the ads have been effective because customers mention them a lot," Zeitler says. "They tell me, 'I hear your children on the radio all the time.' And when the kids were younger, people would come up to us in, say, a grocery store, and kiddingly ask them if I was paying them to do the commercials."

Not everyone thought the slogan was funny, though. One day an anonymous caller left a message on the company's answering machine, chastising Zeitler for his poker-playing ignorance because a flush really doesn't beat a full house. "That was pretty funny," he says.

Even though the radio ads have been airing for years, Zeitler keeps on running them. The way he sees it, people are always moving in and out of the area, and newcomers will probably need a plumber at some point. "We want to be the one they call," he says. "I believe a business has to advertise constantly."

Listen to some of Zeitler Plumbing's radio commercials at www.plumbermag.com



Jesse Athey attaches the copper pipe to the well tank.

The shortage is starting and there's going to be an even bigger void because young people aren't getting into plumbing."

In retrospect, Zeitler is proud of maintaining the family legacy. Every so often, he's reminded of his father when he works at the homes of longtime customers. "I go to jobs and see his handwriting on a 2 x 4 or something," he says. "I think that if he were around, I'm quite certain he'd be proud of what we've done."

# Featured Equipment

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# The Knapheide Mfg Co

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#### Kohler Co.

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#### Milwaukee Electric Tool Corp.

800/729-3878 www.milwaukeetool.com

#### National Vacuum Equipment. Inc.

800/253-5500 www.natvac.com

# Oatev Company

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#### Progress Tank

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#### RINGIN

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#### Spartan Tool

800/435-3866 www.spartantool.com Ad on page 5



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Judy Kneiszel

# 10 Tips to Stop Wasting Time at Work

If you're shocked that 2017 is almost half over, maybe it's time to ask where the time goes and become a better time manager By Judy Kneiszel

hen you greet a child by asking what he or she did in school that day, often the response is, "nothing." You know they must have done something, but haven't you felt like that yourself at the end of a workday? You can be busy all day, but feel like you accomplished "nothing." Those nothing days add up and months pass.

Time is a work tool, just like a vacuum truck, personal computer or smartphone. Like those material items, time can be used wisely to help run a business profitably, or carelessly to the detriment of the business. I'm not suggesting that you are wasting entire workdays playing Candy Crush on your phone or driving to the beach. If you're doing either of those things, the solution is self-evident. I'm talking about the hours you waste without even realizing it, and how to more effectively manage that time.

# **BEYOND THE LIST**

Productive people are often list-makers. A sense of satisfaction comes from crossing things off a to-do list. But to accomplish more, don't just make a list; prioritize tasks and schedule them. It's tempting to do simple tasks first to get a lot of items crossed off the list quickly, but you'll get more done in the long run by tackling the big jobs first. If payroll is your biggest headache, do it first thing in the morning. If you're sleepy after lunch, maybe schedule tasks that take you away from your desk, like inspecting job sites or going out to meet customers.

#### ONE THING AT A TIME

Speaking of that big job — it will get done quicker and better if you not only schedule time for it, but also try to focus on it exclusively during the time allotted. While this isn't always possible, it's a worthwhile goal. Studies have

shown most people actually waste time by multitasking, even though it's self-aggrandizing to say you're always doing six things at once. Maybe you'd be able to prepare a more accurate, thorough bid for the government contract you're going after if you had uninterrupted time to work on putting it together. Or maybe a personnel issue with one of your drivers deserves your undivided attention.

# **KEEPING TRACK**

If you honestly don't know where your time goes, spend a couple of days diligently tracking what you do all day. Informally jot it down in a notebook or, if you think this is a permanent solution to your efficiency woes, there are many productivity apps and job-tracking software programs available for your PC or smartphone. It may amaze you how much time you spend returning emails, answering phone calls or simply chatting with employees. It may also surprise you to find out that you are consistently more productive at certain times of the day. Going forward, you can then try to schedule your most difficult tasks at those times. Also consider the schedules of those you do business with. The sales associates at your supply house might not be available before 8 a.m., but the owner of a construction company might have more time for you in the early morning.

# **SCHEDULE COMMUNICATIONS TIMES**

Give yourself a set amount of time to answer emails or return calls every day. Don't feel like you must answer the phone just because it rings or answer every email immediately. Also block off some time every day as designated "no communications" time. That means you don't answer the phone, you don't even have your email program open and no one is allowed to bother you in person except in a true emergency. You may be surprised how much you can get done during this period.

# ORGANIZE YOUR SPACE

If you honestly track your time for a few days, you'll realize how much time you waste looking for things in your office. Clean up and organize, and then keep it that way to become more efficient.

# **LEARN TO DELEGATE**

Maybe you feel as though you get nothing done because you are trying to do it all. Don't think of delegating as a failure on your part. Rather, think of it as a way to give an eager employee an opportunity to grow. Don't fall in the trap of thinking it will take too much time to train someone to do a few of your tasks. It will be time well spent in the long run. It's OK to admit that one of your young, techsavvy employees could be a quick study with the routing software and actually do a better job than you do after a few short lessons.

# MAKE MEETINGS MORE PRODUCTIVE

Meetings can be efficient ways to communicate, because you can say something once and everyone in attendance gets the message. But meetings can also be giant time-suckers. If you are wasting a lot of time in meetings, try creating and distributing an agenda in advance and sticking to it. This can help keep attendees from going off topic. Thoughtfully creating an agenda can actually help determine if issues could be settled more quickly without a meeting by simply phoning, emailing or having a quick chat with the involved party.

# TAKE DRASTIC MEASURES

Here are a few simple but drastic measures you can take if you still find yourself wasting too much time during the workday:

- 1. Remove the guest chair from your office or cubicle. Or stand up anytime anyone comes in to talk to you. Having guests sit encourages chatting. If one or both people are standing, however, it's actually kind of awkward and visitors will leave immediately upon having their questions answered.
- 2. Cut yourself off from social media. If you are constantly scrolling through Facebook and justify it because you have a business page and want to be able to respond

immediately to comments or complaints, maybe you need to schedule time to do this once or twice a day rather than staying logged on and being tempted to watch cute puppy videos. Maybe someone else in the office can take over social media marketing while you wean yourself off of the puppy videos.

3. Get some blinds. If you have an office with a glass door or windows that people walk past, you may not realize you are wasting significant time acknowledging people as they pass, whether it's a nod, wave, verbal greeting or full-blown conversation. You don't have to become a hermit, but by adding blinds or curtains you can close them when you're in intense get-things-done mode. This can be helpful for you as well as employees who would be more efficient if they spent less time shooting the breeze with you.

#### **SEEK A BALANCE**

If you are frequently left asking yourself where the time went at the end of the day, it may be time to think about time. Using time efficiently doesn't mean you have to be nose to the grindstone eight to 10 hours a day without a break. It means you use time wisely enough that you actually earn a refreshing break occasionally, and still feel a sense of accomplishment at the end of the day.

Judy Kneiszel has operated her own small business for about 20 years and is familiar with the many rewards and challenges of ownership. Write to her with questions, comments or topic suggestions at thewordhouse@ameritech.net.





# Proper Care, Usage Keeps Inspection Cameras in Good Use

Simple maintenance tips can keep equipment running at peak performance for your company By MaryBeth Matzek

dam Teets can sympathize with plumbers using an inspection camera to discover a problem in the line.

"You see the object causing the obstruction right there and there's a temptation to just start using the camera to push at it and move it out of the way," says Teets, a service manager with RIDGID. "But you need to fight the urge, since doing something like that will only damage the equipment."

The waterproof cameras have a flexible rod and can be maneuvered around corners as needed, but while they are a valuable tool for plumbing contractors, they can wear out or break if not used properly.

Dave Dunbar, assistant sales manager for General Pipe Cleaners, says reels with kinks or damaged camera heads are the most common repairs that land equipment in repair shops.

To prevent that from happening to you and to get the most use out of your equipment, industry experts shared these tips:

#### **KEEP HANDS NEAR**

When a contractor's hands are near the opening, he is able to provide greater control over the reeling. Without proper

PSI Plumbing service technician Adam Crambell feeds a jetting hose down alongside a RIDGID SeeSnake with GVision touch-screen monitor through a pipe checking for blockages. (Photo by Dominique Taylor)





control, the reeling can kink up or move too quickly and potentially cause damage to the camera, Teets says.

#### DON'T USE CAMERA AS A TOOL

Dunbar says the camera being used to inspect clogged pipes is similar in design to cameras used to record family events.

"Most of the damaged camera heads that arrive at repair centers have a cracked lens cover or light ring," he says. "The LED lights are hidden behind bulletproof Plexiglas and the whole thing is either pipe threaded or epoxied to the end of the pushrod so it's sealed up like an Egyptian

46 Most of the damaged camera heads that arrive at repair centers have a cracked lens cover or light ring."

Dave Dunbar

tomb. That sounds impressive, but it's really no defense against an overly enthusiastic drain cleaner."

As Teets mentioned, it can be tempting for a contractor to use the equipment to push the obstruction out of the way, but "that's asking for trouble. You need to remember the camera is a diagnostic tool. You are trying to find out what's wrong."

# **KEEP IT CLEAN**

Keeping the camera and reeling clean will improve the equipment's longevity.

"I always keep rags in my truck and wipe it all off after I pull it out," Teets says. "Some people pour clean water over the cable as they pull it out, but if there's a backup, adding more water is not always the best move."

# **GO SLOW**

When starting on a project, the key is to move slowly and carefully as you put the pushrod into the pipe. If a worker moves too quickly or applies too much force, Dunbar says the pushrod will bow out and kink up.

"Once you are in, use short, fast motions to get around a bend and watch where you're going," he says. "Just pay attention."

A kink in the reeling can be expensive to fix, with Dunbar estimating it can cost up to \$600.

As part of the repair, technicians usually cut the reel above the kink, which also creates a shorter reel, Teets says. "You have less flexibility with the camera and may not be able to see as far into the pipe," he says.



# The Smoke Detector

Televising plumbing lines isn't the only way to find the source of obnoxious odors By Ken Wysocky

here there's smoke, there's not always fire. Sometimes there's a plumbing leak instead, as Jeffrey Tillett Jr. can readily attest whenever he uses a Power Smoker 2 to track down the source of sewer odors.

Tillett — who co-owns Tillett Plumbing & Heating in Palmyra, Pennsylvania, along with his mother, Betty has been using the smoke machine for a couple years to help pinpoint the location of miniscule leaks. When customers report mysterious odors and Tillett checks the usual suspects to no avail, he fires up the Power Smoker, made by Hurco Industries.

**44** First I check things like toilet flange seals and trap seals. Anything that might be the cause of the odor. If there's nothing apparent, the smoker is my next step." Jeffrey Tillett Jr.

"First I check things like toilet flange seals and trap seals. Anything that might be the cause of the odor," he explains. "If there's nothing apparent, the smoker is my next step."

The Power Smoker essentially consists of four components: A 2 1/2 hp, four-stroke Honda gasoline engine; a 6-footlong, 4-inch-diameter, heavy-duty piece of flexible duct; a high-pressure, cast aluminum fan that disperses the smoke at up to 700 cfm; and a canister filled with LiquiSmoke, a laboratory-tested, nontoxic and nonstaining fluid that produces the smoke.





Smoke from the power smoker rises through a manhole.

Jeffrey Tillett Jr.

The fan can be adjusted to a cfm level that best suits the size of the system being tested. The unit measures 14 1/2 inches long, 15 inches wide and 20 inches tall. It weighs

47 pounds (not including the canister) and features a built-in handle for easy portability.

A typical smoke test takes about 15 to 20 minutes and setting up the machine doesn't take very long, Tillett says. First, securely fasten the open end of the duct to any clean-out or building trap vent riser. "A

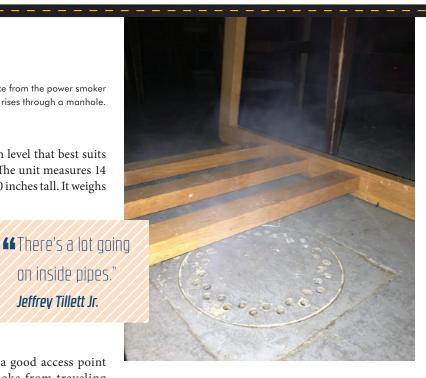
building trap vent riser is usually a good access point because the trap prevents the smoke from traveling through a city sewer main," Tillett says. Then attach the hose attached from the canister to the power pack using a quick-connect valve.

After that, start the unit and let it warm up. Then pressurize the canister by pumping the built-in handle a few times. After that, open the valve to inject the LiquiSmoke into the unit's muffler. When the muffler is hot enough, it turns the liquid into smoke. Last step: Start looking for telltale smoke that indicates where the leak is located. "When you see smoke coming from vent pipes above the roof, you know the system is full of smoke and it's time to start looking around inside," he says.

"In most cases, the draft is quite strong, so you don't always have to cap off a system," Tillett explains. "But if we run a test and still don't see anything, we can partially plug a roof vent to pressurize the system. In most cases, though, we're not trying to create pressure. If you pressurize the system, you can force the smoke through traps, so it looks like there's a leak where there isn't a leak."

Why not just use a pipeline inspection camera? While Tillett has nothing against televising lines, he says it's not always the most efficient or effective approach. First of all, inspection cameras don't reveal everything because tuberculation and other things can mask hairline cracks. "There's a lot going on inside pipes," Tillett says. And when working in larger buildings, it's faster and more costeffective to use a smoke machine than to camera all the lines, he adds.

Tillett Plumbing, which serves central Pennsylvania around the cities of Hershey and Harrisburg, used to rely



on smoke candles. But Tillett says the candles aren't as dependable. As such, when he saw a Power Smoker at the annual Water & Wastewater Equipment, Treatment & Transport Show, Tillett figured it was worth the roughly \$2,000 investment.

"The setup time (for the smoke machine) is about the same as with candles," Tillett explains. "But if you can't get a candle to light, that adds time. Once I bought two or three candles ... I lit the first candle and there was no smoke nothing. I actually went through all three candles, then had to waste even more time running back to a store to get more candles. Here all you have to do is make sure you have gas in the engine and liquid smoke and you're good to go."

Tillett savs he's seen the Power Smoker succeed where other efforts have failed. In one instance, a homeowner troubled by an intermittent, very strong sewer odor in his basement had already called in two plumbers, to no avail. After a walk-through revealed no apparent odor source, Tillett revved up the smoke machine. "Within 10 minutes, we found major smoke in a hallway in the basement," he recalls.

"At that point, we traced it back and saw smoke coming from some insulation in an unfinished area of the basement," Tillett continues. "We found a 1 1/2-inch drainline that a contractor had failed to cap off during a remodeling project. The homeowners were very surprised — and very grateful because the line was still connected to the sewer."

"It's a very ingenious machine," Tillett concludes. "It's extremely valuable for specific applications."



# **Full Throttle**

Louisiana plumber blasts jetter for 5 hours straight to clear customer's clogged drainline By Kyle Rogers

typical drain service call for Parsons Plumbing, Heating & Cooling doesn't last more than an hour. So when owner Doyle Parsons received a call from one of his technicians on the morning of Feb. 20, and heard his employee had been working on a clogged drainline at a residence for more than two hours with little success, he knew other factors were at play.

And not only was the blockage severe, but the family living in the home had been dealing with it for two weeks. "It was a sad situation seeing the family have to live like that. There was no way the toilet could take any more," says Parsons, who started his company in 2007 in Ball, Louisiana.

The company handles an average of five to seven drain cleaning jobs a day among about 30 service calls. This one wasn't necessarily an unusual or challenging job, Parsons says, but to get it done, as many as four crew members were on site for a total of six hours. After two weeks of living with the problem, the residents of the home appreciated the effort.

"They saw the sincerity of our technicians and were confident that we weren't going to leave," says Parsons. "We reassured them that we weren't going anywhere until everything was flushing and flowing."

# DIAGNOSING THE PROBLEM

When the Parsons Plumbing tech first arrived on the job, he initially attempted to clear the line using a cable machine, quickly realizing a jetter would be required. With no accessible clean-out on the ground, the line had to be dug up. Then a General JM-3080 water jetter was used to clear the line from the home to the municipal sewer line. A larger jetter that would've been able to work a little faster was tied up on another job.

"He had to run the jetter for literally 2 1/2 hours to clear the 40 to 50 feet that was on the ground level between the house and the city tap," Parsons says. "Thinking that the line was clear, he went inside and checked the toilet, but it was still overflowing. That's when he called me."

**44**They saw the sincerity of our technicians and were confident that we weren't going to leave. We reassured them that we weren't going anywhere until everything was flushing and flowing."

**Dovle Parsons** 

There was still sludge buildup in the line running underneath the home.

"The buildup wasn't just fresh solids. It had been in the pipe so long, it had started to deteriorate and break down, so it was like thick muck," says Parsons.

But in Parsons Plumbing's service area, homes do not have basements. Everything is built on a slab. With no accessible clean-out, the jetter had to be taken to the roof, and the crew spent another 2 1/2 hours jetting through the vent stack.

"In our area, it's not that unique to have to get on the roof," Parsons says. "The generation before us plumbed things differently than we do nowadays. Sometimes the clean-outs are buried 2 or 3 feet deep. In situations like this one, where you can't put a camera into the sludge because you won't be able to push it through, it makes it more difficult to find a clean-out."

After flushing the line, as well as using a spin nozzle to ensure the side walls of the pipe were free of grease residue and buildup, Parsons Plumbing put a camera down the line. That's when they discovered a major cause of the problem: The home was one side of a duplex, and the neighboring unit had an illegal tie-in to the building's sewer line that blocked the flow from the home.

"If it had been properly tied in, we wouldn't have had an issue," Parsons says. "It was just a hole cut into the sewer



line and the pipe was pushed into it. So it blocked the other unit's flow. Water would make it past, but the solids were not."

# PUTTING CUSTOMER SERVICE ABOVE PROFIT

The property management company overseeing the duplex was only authorized to allot \$200 to a fix. Upon realizing how extensive the blockage was, Parsons Plumbing had to negotiate with the property owner, using the management company as the go-between.

"We had almost an hour of just telephone calls back and forth," Parsons says.

Eventually Parsons Plumbing got the go-ahead from the property owner to do whatever was needed to clear the line, but in the end the owner didn't want to repair the illegal tie-in. "It's kind of discouraging because you know this is going to happen again eventually, and they're going to call back," Parsons says.

Still, the amount of time Parsons Plumbing was on site for the cleaning efforts alone should have cost about \$1,800, but a \$600 cap had been negotiated with the property owner.

"We consider that job a loss, but at that point, it's more about helping the tenant than gaining a profit," Parsons says. "If a tenant is in a tough situation like that, we'll help them out even if the landlord doesn't want to pay. My guys will stop their paid time and volunteer."



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# Becoming a One-Stop Company

Meeks Plumbing adds septic services to serve those customers on private systems **By Marian Bond** 

eeks Plumbing has been serving the area of Vero Beach, Florida, for 35 years, with a full range of services including new construction plumbing, drain cleaning, hydroexcavation, catch basin service, CCTV and locating.

Company owner Ronnie Meeks realized that there was a missed opportunity in his area when it came to those homeowners who were on private septic systems. In 2003, Meeks added septic pumping and repair services to the company's offerings. He put that division under the leadership of his son, Kyle.

The company now has 63 employees and a customer base that includes residential, municipal, commercial and real estate.

# Q: Why did the company decide to offer septic services?

WIE: Mainly because so many of our customers were using our company for plumbing services and they were on septic systems. We were missing that part of the business. We were having customers call with a stoppage and when we got to the home it was a septic issue. Instead of having them call someone else, it was decided that we needed to get the equipment. It just made sense.

# Q: What portion of the business is now septic systems?

**KYLE:** Our septic side is probably 15 to 20 percent of our business. We have seen a lot of spin-off business from offering septic tank pumping, such as grease trap pumping, and we now have a drainfield division. Whenever you are



pumping septic tanks you find that people have drainfields that have failed, so we needed dump trucks and tractors to start replacing the drainfields. The grease trap pumping leads to a lot of other services. Everything kind of complements each other.

# Q: Describe your heavy equipment you dedicate to this important part of the business?

**KYLE:** We have five septic pumping trucks all dedicated to that division. We have a 4,500-gallon tri-axle truck (2008 Mack), a 4,000-gallon (2007 International), a 4,800-gallon (2010 International), a 2,500-gallon (2005 International), and a 3,600-gallon (2006 Peterbilt). We also have three Vac-Con combo trucks for the area sewers.

We also have a specific crew for the septic side. We have four pump truck operators, a drainfield installation crew of two, and four Vac-Con operators.

# Q: What has been your experience with hiring and training for this division?

**KYLE:** We have had very good fortune in finding qualified technicians, but we also believe in training in-house. A lot of our guys came with a CDL license, which is helpful. But we train them on the actual work and have some great guys.

We were having customers call with a stoppage and when we got to the home it was a septic issue. Instead of having them call someone else, it was decided that we needed to get the equipment." **Kyle Meeks** 

# Q: Your company has a main office in Vero Beach, but another in Ocala. What happens at those locations?

KYLE: Our facility in Ocala is for plumbing and drain cleaning. We hope to offer septic service in that location eventually. In our Vero Beach office, which is 11,000 square feet, we have all services, including the septic division.

# O: What advice would you have for other companies considering including septic system service?

KYLE: There is definitely a lot to it. There is a lot of overhead, and then the costs of equipment, which can seem hard to justify. However, including septic service in our region, where there are a substantial number of residential customers on these systems, has been a very positive move for Meeks Plumbing.







# Septic and Sewer Systems

By Craig Mandli

# **Advanced Treatment Units**



# **Advanced Drainage** Systems Septic Stack

The Septic Stack system from Advanced Drainage Systems is available in configurations of 9, 11 and 13 pipes. The units allow for exceptional soil con-

tact without the use of gravel, functioning as a trickle filter to disperse effluent into the voids in and around specially banded ADS pipe. This pipe is engineered with holes and slots, allowing it to collect and disperse the effluent as it passes over the corrugations in the pipe. Systems are available for use in both residential and commercial applications in trench, bed and mound configurations, as well as pressure dosing. 800/821-6710; www.ads-pipe.com.

#### Bio-Microbics MicroFAST

MicroFAST wastewater treatment systems from Bio-Microbics are recommended for individual, small community and commercial applications. With a small footprint, the



system is integrated into a standard septic tank and does not require additional space. It is designed for low maintenance. Alternate modes of operation include recirculation of nitrified wastewater to the primary settling chamber for denitrification and (with the SFR feature) intermittent operation of the blower to reduce electricity usage and improve nitrogen performance in specific situations. 800/753-3278; www.biomicrobics.com.

#### Norweco Modulair

The Modulair package wastewater treatment system from Norweco is designed as a maintenance-free method of wastewater treatment with system



capacities ranging from 1,500 to 500,000 gpd. Plants employ the extended aeration treatment process to quickly and efficiently oxidize organic compounds, according to the maker. The system can be easily enlarged or modified and has the flexibility for any treatment requirement, including pretreatment, AFE, ASH, tertiary, disinfection, denitrification and phosphorus removal. Nonclog Evenair diffusers reduce plant maintenance, and the air-lift surface skimmer simplifies maintenance. Heavy-duty reinforced precast concrete tanks provide durability and long life. The complete system is installed and serviced by licensed, factory-trained distributors. 800/667-9326; www.norweco.com.

# **Drainfield Media/Components**

# Pagoda Vent

Septic vents from **Pagoda Vent** can help enhance system function with landscape appeal and homeowner approval. The premade units are designed to provide the necessary ventilation to the drainfield, and have a durable, lightweight exterior that won't fade or rust. The units encourage a healthy



subsurface environment, mitigate harmful gases and preserve concrete component integrity by diminishing the opportunity for microbial-induced corrosion. Optional odor filter cartridges are available and fit concealed in the vent unit. 888/864-1468; www.pagodavent.com.

#### Tuf-Tite distribution box

Noncorrosive distribution boxes from **Tuf-Tite** are designed to be strong, stable and permanent, and come with a Speed Leveler in each outlet. They



are available in four sizes: four-, six-, seven- and ninehole. Risers are available for the four- and seven-hole units. All boxes come with a one-piece watertight seal that accepts 1.5-, 2- to 3-, and 4-inch SDR35 or Schedule 40 pipe, including corrugated for ease of installation. 800/382-7009; www.tuf-tite.com.

# **Drainfield Restoration**

# Aero-Stream Remediator

The Remediator from Aero-Stream restores failed systems and provides simultaneous nitrification/denitrification. The Aero-Tube diffuser



is designed to lower TSS and BOD and can be installed through a 3-inch opening. Facilitating attached-growth bacteria, the Bio-Brush enhances the treatment process by more than 30 percent. The UL-listed system induces oxygen directly into septic tanks, turning passive anaerobic environments into active aerobic environments. After conversion, the microorganisms reduce the organic matter in the tank by 80 percent and the suspended solids by 60 percent. The cleaner effluent reverses the aging process and eliminates the clogging biomat. Within weeks, systems are restored to full functionality. 877/254-7093; www.aero-stream.com.

# **Arcan Enterprises Septic-Scrub**

Septic-Scrub chemical additive from **Arcan Enterprises** helps remove the sludge that builds up and sticks to the stone in a drainfield, pit or sand mound, helping rejuvenate the drainfield. According to the maker, it works



in the first 24 hours after application. It can serve as part of a maintenance program. It works with all types of systems, is safe to handle and is environmentally friendly. 888/352-7226; www.arcan.com.



# **Ecological Laboratories** PRO-PUMP/HC

PRO-PUMP/HC liquid live bacteria from Ecological Laboratories are a blend of microorganisms selected for broad-spectrum application in industrial and wastewater treatment. It contains over 30 strains

of bacteria to resolve the problems that occur in septic systems. Its performance results in the rapid breakdown and removal of fats, oils and greases that build up in septic tanks and absorption fields. It is a consortium of vegetative nonspore-forming bacteria that exhibit exceptional performance in low-oxygen facultative anaerobic environments. Regular treatment can help reduce surface solids, bottom solids and odor, satisfying customers and making pumpouts more cost-effective. 800/326-7867; www.propump.com.

# **RCS II Septic Drainer**

**Septic Drainer** drainfield restorative from RCS II is designed to repair the soil in a septic drainfield damaged by hardpan soil issues. Due to restricted airflow, this hardpan soil layer causes aerobic bacteria to die off. Only anaerobic bacteria can survive without air. Anaerobic bacteria pro-



duce a waste product called biomat, which compounds drainfield failure. The solution is designed to remove the bond between sodium and the soil, which creates hardpan. The manufacturer recommends using it first to solve underlying hardpan issues, then adding an oxygenator or aerobic bacteria to speed up the restoration process. 518/812-0000; www.septicdrainer.com.

# **Excavation Equipment**

#### Ditch Witch FX65

The Ditch Witch FX65 vacuum excavator has advanced airflow at 1,215 cfm — 20 percent more than the FX60 Model.



Powered by a 74 hp turbocharged Deutz diesel engine, it is designed for super-size cleanup jobs. It offers 500-, 800- or 1,200-gallon vacuum tanks and 200-, 300- or 500-gallon water tanks. Additionally, the machine has an advanced three-stage filtration system with a cyclonic filter, which cleans the air prior to reaching the filter. 800/654-6481; www.ditchwitch.com.



# **Hvdra-Flex Ripsaw**

The Ripsaw rotating turbo nozzle from Hydra-Flex has a cone-shaped flow pattern ideal for potholing applications. It blasts a 0-degree water stream at up to 3,200 psi while rotating at a high speed to provide an 18-degree cone of coverage. These heavy-duty, high-impact noz-

zles are constructed with a stainless steel housing and tungsten carbide wear surfaces to withstand harsh environments and provide long life. Repair kits are available for extended life and lower operating costs. The nonconductive urethane coating on the nozzle body protects the operator and sensitive underground utilities. It offers greater impingement, allowing the technician to use a smaller nozzle size while getting the same impact as nozzles with higher flow rates. 952/808-3640; www.hydraflexinc.com.



# Soil Surgeon

The **Soil Surgeon** hydroexcavating tool fits any sewer combination truck equipped with a telescoping 6- or 8-inch boom. The tool has a 1-inch water connection. The operator controls water pressure and power through truck controls. It has a 6-foot Tuff Tube with handles to guide the unit down for potholing



or side to side for trenching. Six jets boring inward cut the soil, while six boring outward bring the tube down. 949/363-1401; www.soilsurgeoninc.com.

# Inspection Camera

# **Insight Vision Cameras** Opticam 2017

The Opticam 2017 sewer camera system from Insight Vision Cameras has a user-friendly keypad that's been redesigned with an easy on-demand recording and



snapshot button to help speed up inspection time. Technicians can easily record inspection data and client information using the available on-screen text writer and footage counter. A built-in microphone and speaker allows the technician to record voiceover videos and then play the video back on the 10.4-inch LCD monitor. The system includes a 1.3-inch modular, self-leveling camera head that is geared to inspect sewer pipes from 3 to 12 inches. A built-in sonde broadcasts a 512 Hz frequency that is locatable with a 512 Hz locator. The system comes with a free downloadable Insight Vision App for iOS and Android mobile devices, allowing users to view, record, snapshot and share sewer inspection videos. 800/488-8177; www.insightvisioncameras.com.

# Pipe/Pipe Components

# RIDGID STRAPLOCK Pipe Handle

The RIDGID STRAPLOCK Pipe Handle simplifies the installation and maintenance of large-diameter plastic pipe by helping users securely grip the pipe and apply force in all directions. It grips pipe



3 to 8 inches in diameter, allows for rapid size adjustment to quickly move between pipe sizes, and has a specialized strap that provides maximum grip while minimizing marring. Its fixed handle position helps align and hold joints in place while glue sets. It is ideal for wet and cold environments where getting a grip on pipe can be difficult. It also gives maximum leverage in tight quarters and has a locking design for quick application. The handle can also be used in pairs to aid in complex installations. 800/769-7743; www.ridgid.com.

# Pumps

# Ashland Pump AGP-HC200 Grinder Pump

The AGP-HC200 Grinder Pump from Ashland Pump has a radial portion that grinds waste into fine slurry, and a cutting-edge axial portion that cuts and chops stringy solids and other forms of nonhuman waste into pieces small enough to pass through the small-diameter discharge pipe. Fibrous materials get



chopped/cut, while the soft solids become slurry, minimizing downstream solids and preventing clogging. The engineered design prevents wrapping at the inlet, which clogs grinders. The cutters are easy to sharpen and adjust clearances, and are made of case-hardened 440 stainless steel. 855/281-6830; www.ashlandpump.com.

#### BJM Pumps SKG Series

SKG Series submersible pumps from BJM Pumps obliterate flushable wipes and other difficult solids in wastewater applications. They have RAD-AX Dual Shredding Technology, a four-pole motor, and double mechanical seals for long life and trouble-free performance. All cutting ele-



ments are manufactured from 440C hardened stainless steel. The impeller and suction cover are constructed from chrome iron for added durability. They offer up to 410 gpm and heads to 42 feet. 877/256-7867; www.bjmpumps.com.



# Franklin Electric Little Giant GP Series

The Little Giant GP Series grinder pump from Franklin Electric operates across voltages ranging from 208 to 230 volts in one model. The GP-A (automatic) and GP-M (manual) versions' powerful motor and construction are designed to handle the tough demands of low-pressure sewage applications, using the same reliable cutter system

at 414,000 cuts per minute. These units incorporate a nonclogging impeller staged for efficient pumping of sewage slurries with a shut-off head of 130 feet. They are equipped to handle the demands of grinding domestic sewage, whether as a replacement pump or a packaged system. Available in an automatic version for single-phase power sources and a manual version for both single-phase and three-phase power sources, the GP-A and GP-M employ a 2 hp single-phase, 3,450 rpm with capacitor start/run motor with built-in overload protection to prevent over-current and over-temperature damage. 260/824-2900; www.littlegiant.com.

# Orenco Systems Biotube ProPak Pump Package

Biotube ProPak Pump Packages from Orenco Systems are complete, ready-to-install pump packages in a box. They are used for filtering and pumping effluent from single- or dual-compartment septic tanks to gravity or pressurized discharge points. Pump vault



technology eliminates the need for a separate dosing tank. Packages include a Biotube filter cartridge, which filters up to two-thirds of solids, so only liquid from the tank's clear zone is pumped. Filters are easy to remove and clean, without pulling the pump vault. All components are designed to be quickly installed and easily maintained. The PF Series high-head effluent pump is field-serviceable and field-repairable, and pump controls are designed for the specific package you purchase. Multiple models are available. Free ProPak Select software provides fast, error-free hydraulic calculations and generates system curves. 800/348-9843; www.orenco.com.

# Polvlok 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 rugged cast iron housing and volute equipped with a cast iron vortex impeller capable of passing a 3/4-inch-diameter solid. 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 for automatic operation. 877/765-9565; www.polylok.com.

# **Pump Controls**

#### **Level Sense**

The Wi-Fi-enabled Level Sense unit can be used in utility rooms, water heaters, kitchen sinks, sump pumps and crawl spaces. It not only senses temperature and humidity, but also functions as a water level measure-



ment device, a leak detector and a high (or low) water alarm. The unit joins the customer's local home wireless network and sends notifications by email or text message. It has a 110 dB siren and rechargeable backup battery. The unit can be configured to send a copy of all notifications to the installer, providing the opportunity to contact the customer and follow up with service. It has a relay output for integration into alarm systems and external valve control. 314/787-8059; www.level-sense.com.



# SJE-Rhombus EZ Series In-Site CL

The EZ Series In-Site CL data-logging control panel from SJE-Rhombus is designed to control one or two 120-/208-/240-volt single-phase pumps. It includes a Bluetooth Smart Ready

module for wireless connection to a smartphone or tablet, allowing users to configure the panel, view system status or download data via the EZ Connect Mobile App. This enables safe and secure access to the control panel in all weather conditions, without having to bring a laptop to the job site and open the panel door to access information. It uses a C-Level sensor for continuous level monitoring and records up to 4,000 system events, including pump runtimes, pump cycles, alarm conditions, HOA settings, power outages and service calls. In-Site software formulates system data, creating reports quickly and easily so system conditions can be identified and corrected. Each panel is UL/ cUL listed. 888/342-5753; www.sjerhombus.com.



# Sump Alarm Wi-Fi Version

The Wi-Fi Version outdoor tank alarm from Sump Alarm provides e-mail, text and voice notifications to up to five numbers. The unit can call installers when a client's tank is full. The weatherproof high tank alarm



requires no on-site wiring, and includes a 90 dB horn and 1-inch LED indicator. Versions are available for high- and low-level detection. It joins the household's Wi-Fi network. Email notifications are free for life, while a small monthly fee is associated with the voice and text monitoring plan. It is available in 120 or 220 volts, completely preassembled, and suitable for extreme temperatures. 314/787-8059; www.sumpalarm.com.

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# Septic Tank

# Jet Inc. J-500-800PLT

The J-500-800PLT plastic tank from Jet Inc. offers a lightweight alternative to concrete I-1500 Series BAT Media Plants. The tank offers variable treatment capacity from 500 to 800



gpd. It is rotational molded out of lightweight polyethylene material to offer a seamless tank with maximum strength and durability. It is easy to transport and install in the most difficult site conditions, and is locally supported by a global network of trained and certified distributors. 800/321-6960; www.jetincorp.com.

# **Septic Tank Components**

# **Infiltrator Water Technologies EZsnap Riser**

The EZsnap Riser from Infiltrator Water Technologies is an easy-to-assemble watertight riser system for septic tanks, pump tanks and



cisterns. The modular sections and click-and-lock technology allow riser height to be customized for any installation and create a watertight gasket-to-gasket seal. Made from polypropylene, the risers can be used with either concrete or plastic tanks and are available in 2-, 6- and 12-inch sections with a 24-inch diameter that can be nested for efficient transportation. No assembly tools, sealant/caulk or hardware is required. The slip-resistant lids are fastened using stainless steel screws and can withstand a wheel load comparable to the weight of a full-size pickup truck. It includes a safety lid providing secondary protection if a primary riser lid is damaged or removed. 800/221-4436; www.infiltratorwater.com.

# Sim/Tech Filter pleated filter units

Pleated filter units from Sim/Tech Filter provide gravity effluent filtration in septic tanks and turbine pump filtration in pump tanks. The filtration size is 3/32 inch in two dimensions. Flow channels in the pleated material result in increased longevity. All filter types start at over 2,000 square inches of filtration area. The 45 percent open area (over 900 square inches) is equivalent to 800 lin-



ear feet of 3/32-inch slots. Various configurations and larger units are available. 888/999-3290; www.simtechfilter.com.



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# Septic and Sewer Systems

Bv Craig Mandli

# **Providing treatment solutions** for noncompliant camp system



Problem: Stony Glen Christian Camp in Madison, Ohio, had an NPDES treatment system that was in noncompliance, and septic odors were a persistent nuisance. The Ohio Environmental Protection Agency required an equipment upgrade. Goals included low maintenance and operating cost, with the ability to handle variable hydraulic flows of 500 to over 4,000 gpd combined domestic and kitchen waste, with NH3 reduction from levels of 140 mg/L, treatment equipment in two locations, and meeting NPDES performance limits.

**Solution:** Existing septic tanks were converted into biological reactors for first-stage primary treatment, using IMETTM bioreactors for high strength and NH3 reduction. Influent alkalinity was increased to aid in NH3 reduction using Anua **Puralinity** modules. Time-dosed pump stations transfer treated effluent to 36 Anua Puraflo peat fiber biofilters. The center camp system required 28 Puraflo modules and the A-frame camp system required eight Puraflo modules for peak-season hydraulic loading. Secondary treatment is provided by surface sand filtration, re-aeration and UV disinfection through Salcor 3G units. Programmable control panels and Ethernet/IP connections allow use of SCADA for remote management.

**Result:** System design requirements were fully achieved, and along with other facility improvements provide an environment for year-round camping and retreat opportunities for participating churches. 336/547-9338; www.anuainternational.com.

# GSF system a fit for narrow lot



**Problem:** An addition to a lakeside cottage on Lake Huron in Sanilac County, Michigan, resulted in the need for a new septic system. There was limited space on the already narrow lot, which was made narrower by a driveway and existing shed. A treatment system was needed in order to fit into the site's constraints, that in addition to the lot size included heavy soils and a seasonal high water table 18 inches below grade.

**Solution:** Weiss Excavating installed a 450 gpd **Eljen GSF** system. Milan Supply delivered the units and provided design guidance. The system is comprised of a bed of 20 B43 GSF units, split into two rows. The GSF system was elevated due to the seasonal high water table, but was able to go in shallower than a traditional system because of its effluent treatment levels. After the units were installed on a base of stabilized ASTM C33 sand, pressure laterals were inserted into the 4-inch SDR 35 pipes on top of the units to provide timed dosing.

**RESULT:** The installation was quickly and easily completed. The system provides a low-maintenance treatment option for sites, and is tested and certified to NSF Standard 40. 800/444-1359; www.eljen.com.

# Low-pressure system installed on limited-absorption property



Problem: A Lake Wylie, South Carolina, vacation home with a 1,000-gallon septic tank sat atop a former gravel pit where the ground had limited absorption for lateral discharge, with solids buildup that required frequent cleanouts. Adding a conventional grinder pump reduced the volume of solids, but also concentrated hydrogen sulfide gas in the wastewater. The acidic gas ruined the original pump in four years. Although replaced under warranty, a replacement pump ran until out of warranty and cost the homeowner a substantial amount for a replacement, which soon began emitting bearing noise.

**Solution:** A Flygt Low Pressure Sewage System (LPSS) was recommended. The pre-engineered system can serve individual homes or small residential developments. It consists of a fiberglass-reinforced polyester wet well with either a durable progressive cavity or centrifugal grinder pump. The impeller's hardened cutting rings reduce solids to less than 1/3 by 5/8 inch in the slurry. The package comes with a level indicator, panel display, alarm and waterproof control box isolated from possible sump flooding.

**RESULT** The LPSS installed easily and offered a lasting solution to the homeowner's problem. 704/409-9700; www.xyleminc.com.

# Advanced treatment system donated for Arizona home



**Problem:** A Yuma County, Arizona, resident applied and received a placement permit for a mobile home. It was discovered that the current septic system for the new home was an illegal cesspool and needed to be replaced. The new resident did not have the funds to replace the cesspool.

**Solution:** The local sanitarian, Rick Stacks, reached out to local businesses for help in getting the Yuma resident a legitimate septic system. They chose a three-bedroom-sized Advanced Enviro-Septic system donated by Presby Environmental, which treats the wastewater passively and disperses back into the earth without electricity.

**Result:** The resident's mobile home now has a legal septic system that provides NSF 40 standard treatment. 800/473-5298; www.presbyenvironmental.com.

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# Product Spotlight

// n an industry where time is money, plumbers are always on the lookout for new technology that allows them to provide quality service while freeing up time to hit that next job. That's why the EvoPEX push-to-connect plumbing system from SharkBite makes a lot of sense.

Designed as a PEX pipe system for new residential and commercial construction, the EvoPEX plumbing system extends beyond the traditional pipe-and-fitting solutions to be inclusive of fittings, PFX pipe, outlet boxes, valves and other accessories needed to install a complete plumbing system from meter to fixture. Plumbers, installers and building professionals are able to plumb without needing special tools. As a result, efficiencies are increased and the risk of installation errors is minimized.

"An entire home can be plumbed without needing special tools, solder, crimping or glue, which means cleaner installations, less potential leak points and less time lost on the job," says Jeff Long, global director of marketing for SharkBite. "It helps installers optimize efficiency and ensure that builders' schedules are kept."

The body of EvoPEX fittings are made from Acudel high-performance polymer, a proven, reliable material for use in potable water systems. It has a green-colored visual indicator to ensure that the fitting is properly connected, minimizing install errors that cause potential leak points. "That means that one manufacturer can back the entire system, including pipe, fittings and valves, with a single warranty," says Long.

Using EvoPEX increases speed to improve schedule compliance, as the ability to rotate the fitting reduces install errors, therefore improving install speed. In addition, no



specialty tools are required, which means no dead batteries on tools to slow down installations, and less stress on the technician's hands and wrist to operate tools.

"The ease of use allows you to be able to train new help quickly," says Long. "In addition, the wide variety of fitting configurations means it's a great fit for many rough-ins."

SharkBite launched its EvoPEX system at the 2017 International Builders Show. The debut comes at a time where new construction is on the rise. Nearly 813,000 homes were built in 2016, according to the 2016 Home Building Outlook released by Metrostudy. With the continued, steady expansion of the industry, forecasts for 2017 are favorable, and Shark Bite has the EvoPEX system ready to be utilized.

"Prior to the launch we did an extensive amount of testing and spent the past year performing house trials with various builders to ensure the system's performance and reliability," says Long. "The feedback was overwhelmingly positive." 877/700-4242: www.sharkbite.com.





#### **Watts ball valves**

The selection of ball valves from Watts includes models in brass, bronze and stainless steel, as well as materials for specialty applications. End con-

nections include solder, threaded, press, PEX and quick-connect. Handle kits such as lever, extended, tee and memory stop are available on select models. To meet different application requirements, the Watts portfolio includes full port, standard port, gas and electric actuated ball valves. 978/688-1811; www.wattswater.com.



# Little Beaver attachments for horizontal boring

The two styles of Little Beaver horizontal boring kits wet and dry - turn mechanical and standard hydraulic earth

drills into versatile machines for precise horizontal boring applications, including installing wiring, cable and telephone lines. The dry kit attaches to the drill to create bores as long as 5 feet. It includes a 3-inch by 5-foot auger, a horizontal drill key and a 5-foot extension with a universal wiggle joint. The wet kit includes a choice of a 2-, 3- or 4-inch water drill bit plus a swivel adapter, swivel assembly and horizontal drill key. 800/227-7515; www.littlebeaver.com.



# RIDGID battery-operated **PEX-One tool**

The PEX-One tool from RIDGID is designed for onehanded use, and for easy and accurate press connections anywhere

on the job. Weighing 5 pounds, it can press three sizes and features a compact design that frees up space in the toolbox. The PEX-One provides power through 150-plus presses per charge with a five-second crimp cycle. It can press multiple size fittings up to 1 inch and has interchangeable dies with a quick-change system. 800/769-7743; www.ridgid.com.

# A.R.E. commercial truck caps

Deluxe Commercial Unit truck caps from A.R.E Accessories fit a wide selection of



pickups and are made of fully welded aluminum. There are more than 200 options available, including door and window configurations, toolboxes, ladder racks, interior lighting and power box options, side panels and cap heights from 23 to 36 inches. Custom paint finishes are also available in any OEM or fleet color code formula. All caps feature BOLT one-key lock technology in folding T-handles on doors for added security. 800/649-4273; www.4are.com.

# Franklin Electric PowerSewer System

The redesigned FPS PowerSewer System from Franklin Electric is a low-pressure system that pumps residential and commercial wastewater to a collection or treatment area, providing an alternative to gravity sewer systems and septic tanks.



The float tree is spring-loaded and easily removable, with a progressive lift handle to simplify pump removal. The system also features an isolated pump support that can accommodate heavier pumps for expanded applications. 260/824-2900; www.franklinwater.com.

# Multi-Cradle from PRINOS Product Design & Innovation



The light and portable Multi-Cradle from PRINOS restricts the movement of plastic pipe, lumber and threaded rod. The design has mechanical features and high-friction material that eliminates the need for

belts, clamps or vises. It can be placed directly on flat stable surfaces - floor, workbench, etc. - or on the top of a 5-gallon bucket. The Multi-Cradle supports and restricts the movement of plastic pipe and conduit ranging from 1/2 to 6 inches in diameter, threaded rod from 1/4 to 1/2 inch and standard U.S. lumber sizes: 2 x 3, 2 x 4 and 2 x 6 inches. It has no moving parts or attachments and is molded from recyclable high-density polyethlene. 860/249-1256; www.multi-cradle.com.

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# INDUSTRY NEWS

# JLG plans operational changes: plan to close 3 facilities

JLG Industries announced it has submitted plans for closure to the works council in Belgium for its manufacturing and predelivery inspection facilities and to employee representatives in the U.K. for its engineering center there. Manufacturing lines at the company's Orrville, Ohio, plant will also be shut down. The proposed changes may affect up to 525 employees.

# Water-Right hires Erik Koglin as field manager

Water-Right announced that Erik Koglin has been hired as field manager of Clear Choice Water Group, the company's professional-level dealer group. Koglin has spent his career with the water industry, working for Pentair in product management and as a territory sales manager for the Midwest, where he serviced water treatment OEMs, distributors, and helped dealers grow their businesses.

#### American Standard ActiClean toilet wins award

The ActiClean self-cleaning toilet from American Standard was named a 2016 Green Good Design award recipient in the green products category. The award is presented by the European Centre for Architecture Art Design and Urban Studies, and the Chicago Athenaeum Museum of Architecture and Design.

# Taco's SmartPlug wins ASHRAE's Product of the Year

Taco Comfort Solutions's SmartPlug Instant Hot Water Control was awarded as the 2017 AHR Expo Product of the Year. The SmartPlug learns hot water usage patterns and delivers hot water when it's needed.

# Ranger Design supports Montreal Neurological Institute & Hospital

Ranger Design recently presented a check for \$100,000 to the Montreal Neurological Institute to help them launch their new Neuro-Palliative Care program. NPC aims to reduce the mental and physical suffering of neurological patients and their families that occurs after a diagnosis of a terminal illness.

# Hvdra-Flex welcomes new director of sales

Jonathan Kingsbury has joined Hydra-Flex as its new director of sales. Kingsbury has over 16 years' of experience in the commercial cleaning industry.

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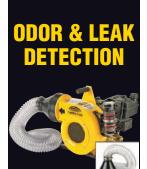
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