

# Plumber™

## A TWISTED PATH

Using his general contracting skills, this plumber builds business on the promise of helping customers with whatever repairs they need. Page 12

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LOCATION &  
LEAK DETECTION  
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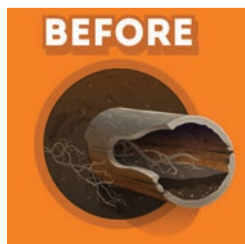
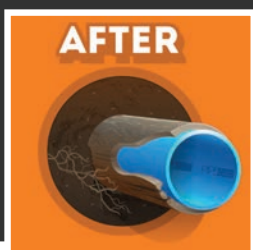
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TRACKING TECH FOR TOOLS  
REDUCES INVENTORY LOSS  
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On the ROAD

### The Missing Link

One-Key asset-tracking technology reduces inventory loss and time spent searching for tools.

- By Ken Wysocky



### On the Cover

Plumb Twisted plumber Brandon Fischer hydrojets a sewer line outside of a home to remove a major blockage. Plumb Twisted owner Dennis Dallos started his company offering both typical plumbing services and drain services to his customers in the Cushing and Stillwater, Oklahoma areas. Dallos has three employees including Fischer (his brother-in-law) and his son, Cody. (Photography by David McNeese)

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# Plumber

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Cory Dellenbach

## Pinpointing the Problem

Highlighting leak detection and location services as part of your offerings could pull in a new set of customers

**T**

his issue's theme of location, leak detection and inspection is something that every plumber does in some way, but very few note those services on websites, trucks and vans or business cards.

Most of the time you are likely highlighting the repair and installation work you do for customers. How much of your time on a job site is looking for the source of the leak though? Especially if it's coming through a ceiling or wall?

I had a leak showing up in a bathroom a while ago. I thought it was coming from the upstairs toilet, so I called the plumber. Thankfully the plumber didn't take my word for where the leak was and decided to do some investigating himself. My hypothesis of where the water was coming from was wrong.

The plumber determined that water was finding its way down from our shower — due to the sealant around the shower stall being old and not holding up anymore. The water found the path through the crack the sealant would have protected into our floorboards and down onto the drop-down ceiling of the bathroom below. Overall, an easy and far less expensive fix.

### HIGHLIGHTING THAT JOB

It's easy to advertise the repair and installation aspect of your job, but would it be a bad idea to also advertise leak detection?

If a customer suspects a leak because they are noticing more water usage on their bills, they'll see that you do leak detection and call you to determine if, in fact, there is a leak somewhere in the house.

A few years ago, we profiled a plumber whose niche was leak detection and location. He was based in Florida and that's all he did. A customer would call saying they suspected a leak or they saw more than usual water use and the plumber would bring instruments in to locate the leaks under the slabs.

It very well could be advantageous for you to add leak detection services to your plumbing firm if another doesn't offer them in your area.

He would then recommend other plumbers that would come in and do the repair work. You don't have to do it that way though. If you determine the cause of the leak, you will likely get that repair job too because the customer won't want to deal with the hassle of finding someone else. It's up to you whether you charge for leak detection services separately or do it as a favor if they hire you to complete the repair.

### NEEDING THE TOOLS

It very well could be advantageous for you to add leak detection services to your plumbing firm if another doesn't offer them in your area.

In this issue we give you an idea of what tools you might need. Just head over to our Product Focus feature. You'll see a wide range of cameras available, as well as electronic leak detection systems, pipe locating tools, smoke detectors and much more.

We even give you a look at how a contractor uses a camera for an inspection successfully in the case study in this issue.

### DO YOU HAVE TIPS?

Do you focus on leak detection and location? If so, what tips would you have to others that are looking at entering the field or are already in it? Email me at editor@plumbermag.com or give me a call at 715-350-8436.

Enjoy this issue! 📧



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### Key Plumbing Trends to Watch

Staying on top of new trends and products can help make your projects more efficient and consistent. It's critical for plumbers, just like manufacturers, to understand their end-users and what they prefer. This online exclusive looks at some plumbing trends that are top of mind for homeowners these days.

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## KEEPING THE FAITH

### Earning Customers' Total Trust

This is a business of delivering bad — and sometimes expensive — news to homeowners, so it's vital to have their confidence first or risk losing their loyalty. Check out this overview of tactics for earning and maintaining the trust of your clientele.

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# A TWISTED PATH

By Giles Lambertson  
Photography by David McNeese

Using his general contracting skills, this plumber builds business on the promise of helping customers with whatever repairs they need



## *Plumb Twisted, Cushing, Oklahoma*

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**SERVICES**

Dennis Dallos  
3

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Cushing and Stillwater communities  
[plumb-twisted.com/](http://plumb-twisted.com/)

**T**he name of the plumbing company is catchy, but also succinctly captures the breadth of the work that Dennis Dallos undertakes in central Oklahoma. After all, “Plumb Twisted” will fit in a logo a whole lot easier than might “Plumbing Work Twisted Into About Everything Under The Sun or Under The Ground for Just About Every Kind of Customer.”

The Cushing, Oklahoma, company is versatile, in a word. Example: One of its derivative applications is drain cleaning, which has grown from being an afterthought to accounting for 50-60% of the company’s business. “I didn’t expect to be involved in cleaning drains,” says Dallos.

Ever adaptable, the company owner says he simply responded to a situation. His plumbers frequently answered residential service calls and discovered that, along with an original plumbing problem, a homeowner complained of a slow or blocked drainpipe. “So, we started to buy some drain-cleaning equipment.”

The unpredictability of service calls. A twisted tale, indeed.

## THE ROAD TO OKLAHOMA

Dallos is not an Oklahoman by birth. He grew up in and around New Jersey. As a teenager, he began to work part-time for a local plumber. It turned into a full-time job, he says, and the plumber became a mentor and life coach for a young man who needed some role modeling.

“He was a fantastic guy,” Dallos says, mentioning that the man had three daughters, which may or may not have been part of the attraction. In any event, Dallos learned the plumbing trade working for that company for the next six years. In 1999, he began working elsewhere, at first as a subcontractor to his original employer.

Finally, in 2002 as a 24-year-old skilled craftsman, Dallos went out on his own. He worked up and down the East Coast from Vermont to Georgia. One of his steady employers was a company that did contract work for Walmart stores. Another was a developer in New Jersey who was affiliated with 28 RE/MAX real estate offices. He then spent a year at a mountain inn, among other things installing a hydronic baseboard heating system throughout the lodge.



▲ The team at Plumb Twisted includes, from left, Brandon Fischer, plumber; Dennis Dallos, owner; and Cody Dallos, plumber.

▶ Brandon Fischer, left, and Cody Dallos lift the BossJet 4.4 gpm sewer jetter (Amazing Machinery) out of the van as they plan to use it to remove a blockage at a residential property.

## Building a Brand

The twists and turns of life have not overpowered Dennis Dallos. He has handled them deftly, most recently turning them into a Cushing, Oklahoma, plumbing company with a catchy name — Plumb Twisted.

“I wanted a family business, but an employee-run business,” says Dallos. “I wanted to build a brand, not just a family name, a brand the people could remember. I wanted it to be memorable.” He checked off all those boxes with “Plumb Twisted.”

Dallos says the name makes sense in that plumbing does not have rigid guidelines about tackling jobs. Approaches to fixing a plumbing issue are flexible, maybe not twisted, but certainly intertwining knowhow with tool selection with gumption. “You ask ten plumbers how to do something, and nine of them are going to do it differently than the rest.”

And, he adds as further justification for the choice of name, “You open some cupboards to get at pipes and you find the most twisted stuff!”

So, Plumb Twisted was the settled-on moniker. A marketing person came up with numerous logo prototypes for it, which Dallos and his son Cody, who is into graphics, massaged to produce the final red, white and blue logo.

An earlier animated version on the company website had pipes twisting and turning and water dripping from a faucet, with the word “Twisted” floating into place, each letter twisting as it moved. It was entrancing, no matter the condition of one’s pipes and one’s need for a plumber. It has since been discarded.

Property owners who have found the company name while looking online for a plumber have had interesting reactions, according to Dallos. “I never know what to expect. Some will call us just because of the name. They’ll ask us to come repair something because we have a cool name.

“On the other hand, I got a call last week from a neighbor who is the chaplain for the prison in town. He asked about the name. I explained it. He said when he saw it, he almost went right on by because he didn’t know what to think.”

Imagine that.



▲ Brandon Fischer uses a DEWALT tool to make a repair to a toilet.

How did he get from a Vermont mountain lodge to plumbing in Oklahoma? The twisting path of fate led him to become friends with a tradesman who was moving back to the Sooner State. “He said he thought it would be a good place to raise my family,” recalls Dallos, by then the father of two pre-school-age children.

His wife concurred that the move made sense. So, the family quickly sold the house in Pennsylvania just outside the Pocono Mountains, bought a residence sight-unseen in the center of the country and drove over to Oklahoma.

In terms of his plumbing career, however, it was not a seamless transition. Because his adopted state didn’t reciprocate with New Jersey on licensing, he was unable to jump immediately back into plumbing. So, he decided to parlay his skills into a project management position with a pipeline company. Cushing is an oil town, a major crossroads for pipelines and home to refineries.

The pipeline gig would last for 14 years. “I met a lot of fantastic people and saw a whole lot of the country,” Dallos says, the quality of his work establishing his reputation as a manager and craftsman. When he decided in 2021 to return to plumbing, Plumb Twisted was the result. “I didn’t miss a beat. I got my contractor’s license and was off to the races.”

## NO REST IN SIGHT

“Everything is really spontaneous” is how Dallos describes his busy days responding to service calls in and around Cushing and Stillwater. Business has been growing at a pace that

Continued ▶

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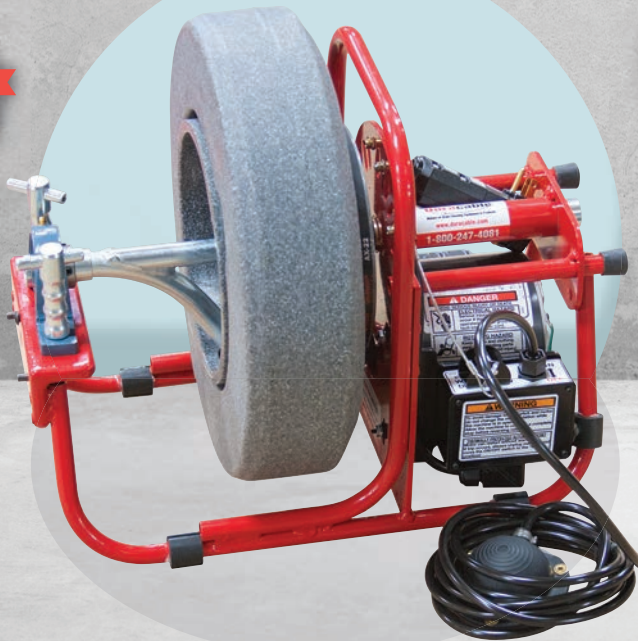
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- ◀ Moving to a different location on the property, Brandon Fischer continues to try and remove blockages from drainlines.
- ▼ Cody Dallos uses a RIDGID SR-20 locator while he finds and marks the location of a sewage line on a property near Cushing, Oklahoma.



“You tell a customer you’ll do something and sometimes you end up putting your foot in your mouth. What sounds like a simple call turns into something else.”

**Dennis Dallos**

sometimes seems breakneck. That was evident when a scheduled interview for this article had to be postponed three times.

“You tell a customer you’ll do something and sometimes you end up putting your foot in your mouth. What sounds like a simple call turns into something else,” he says by way of explanation. “We went on a call about a simple toilet leak and it turned into a waterline leak and then into total disaster.”

How busy is he? Until recently, he and his crew were working seven days a week. He cut back to 10-hour days

Monday through Saturday, an almost leisurely work schedule. Three out of five plumbing calls are to residences. “We’re so busy with service work that we’re not even looking at new construction.”

Part of the company’s busyness can be attributed to its willingness to take on not only plumbing repairs but anything else that needs fixing. It stems from Dallos’ general construction work experience, as well as his desire to completely satisfy his plumbing customers. The slogan under the company’s logo reads, “Professional Plumbing and Home Solutions.” The latter phrase means, “We’ll fix anything.”

“We want to make sure a customer is 100% taken care of,” says the owner. “If we’re there and they have an issue with a soffit or roof guttering or a door seal — anything at all — whatever a customer throws at us, we’ll help them out. It’s a small town. You want your customers happy so



when you go into a restaurant to eat you don't feel like you have to avoid anyone."

His crew consists of his brother-in-law, Brandon Fisher, and his 19-year-old son, Cody. Fisher left his work as a mechanic to join Dallos in the oil pipeline business, and then left that to plumb with Dallos. The son was scheduled to enroll at Oklahoma State University in Stillwater to start on an engineering degree, but the on-again, off-again COVID protocol confusion led him to take a year off after he discovered he liked his father's work.

"I was swamped with work and Cody saw I had more on my plate than I could handle and asked me if I was needing some help. He came on board till school started and then learned he actually enjoyed plumbing," says 44-year-old Dallos. "Brandon loves it. I never forced anything on anybody."

The tools of the trade at Plumb Twisted include several pieces of RIDGID equipment, including FlexShaft drain-cleaning machines and a K-400 drum machine. He has an "off-brand" camera for his pipe inspection work but is thinking hard about buying a RIDGID SeeSnake. He flushes lines with an Amazing Machinery BossJet 4.4 gpm sewer jetter.

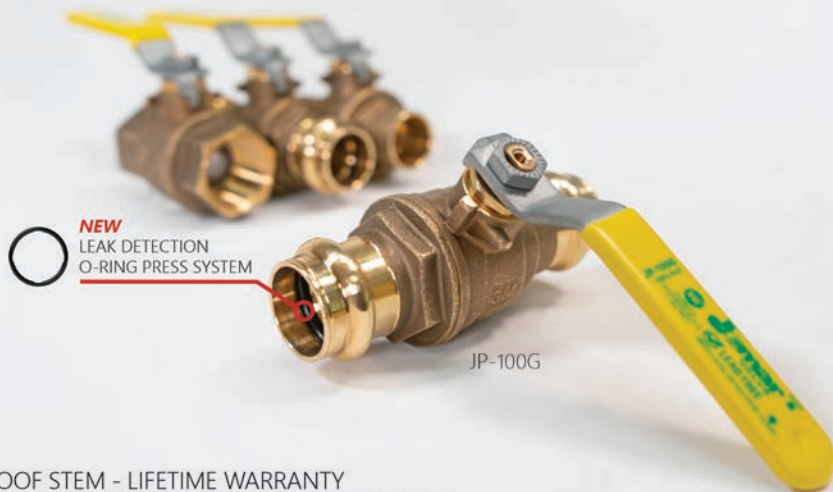
Hand tools are generally of two brands. "Everything is cordless, of course. My son is a DEWALT fanatic and I'm a Milwaukee fanatic." Fisher's fanatical tool bent was not revealed. When a line needs excavating, which occurs three or four times a month, Dallos rents a digger for the job.

He doesn't have a favorite vendor of plumbing fixtures and appliances, never having bought into one brand or another. "I really don't have a preference. They seem pretty much alike to me with different stickers." The exception, he says, is Delta, which he opts for when appropriate because the fixtures are "so easily rebuildable."

## THE BIG PLAN

COVID continues to alter the way business is done, according to Dallos. Though Plumb Twisted's work at restaurants continues, it has been affected by some restaurants having their dining rooms closed. Sonic Drive-In is a staple client. Last winter's February freeze that hit Texas especially hard also was felt in Oklahoma, momentarily disrupting Plumb Twisted's routine. "It was pretty eventful," says the company owner. "Everyone's emergency was a priority, so customers got frustrated."

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◀ Dennis Dallos looks on as plumber Brandon Fischer clears a blockage using one of the company's BossJet 4.4 gpm sewer jetter units (Amazing Machinery).

“If we're there and they have an issue with a soffit or roof guttering or a door seal – anything at all – whatever a customer throws at us, we'll help them out. It's a small town.”

*Dennis Dallos*

But, by and large, Plumb Twisted has been able to stay on track. The company now is bidding to do the work on a substantial new hotel project in Cushing. Dallos has a fondness for new construction plumbing work and is prepared to expand the size of his crew if he wins the bid.

He also is pushing a new maintenance agreement with apartment house property owners. “I do a lot of contract work with landlords. Last November, I started to push a ‘peace of mind’ plan that would involve a couple of visits a year to each residence. It's a fairly new concept.”

None of that work expansion would be possible were the company not doing good work. One of its ways to complete work in a timely fashion is to send more than one plumber out on a job. “We have two or three guys on the job for an hour and it's done versus sending one man who is there for half a day. It's good for the customer and good for the business. We can

do twice the amount of work, get twice the number of calls done.”

Plumb Twisted hangs its hat on the metrics of honesty, efficiency, punctuality and quality. “It is all about doing an honest tradesman's work,” is how Dallos describes it. A sample of that is the company's one-year workmanship guarantee on each job done. “What that means is we are going to stand by our work. I think it's a good thing.”

Where does this all lead? “I think we are going to separate into two division, a drain-cleaning division and a plumbing division. Maybe later this year.” While that sounds ambitious, ultimately Dallos wants to franchise Plumb Twisted. “That's my goal.” 📍

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# The Missing Link

One-Key asset-tracking technology reduces inventory loss and time spent searching for tools

By Ken Wysocky

**W**ith 32 technicians, 29 service vehicles and hundreds of tools and machines, there's great potential for inefficiencies caused by misplaced tools at Cellino Plumbing in suburban Buffalo, New York.

Or at least there used to be. Ever since the company invested in One-Key asset-tracking technology from Milwaukee Tool, that's no longer the case, says Lucas Cellino, co-owner and president of the company, established by his father, Tony, in 1995.

"I was a little skeptical at first," Cellino says of the app-based, inventory management software, which technicians access via their cellphones and/or tablets. "I thought it was a neat concept that still wouldn't do us much good.

"But once we fully committed to putting the Ticks (a small Bluetooth tracking device) on almost every tool, it works great. If you use it just with Milwaukee Tool products that have a built-in Tick, but have other tools without Ticks, it's hard to build good processes and procedures around them."

## NO MORE MIA CAMERAS

As an example of how One-Key technology improves efficiency and profitability, Cellino points to the company's pipeline inspection cameras (six RIDGID SeeSnakes, one made by Hathorn and one from Vivax-Metrotech Corp.).

"We often wouldn't know which technicians had which cameras. We'd have to call the warehouse manager and hopefully he'd know who has the cameras. And if he didn't know, we'd have to send out a mass text message to all our technicians. Now we always know exactly which truck the cameras are on."

That's critical, Cellino says, because how fast technicians can perform pipeline inspections directly correlates to higher closing rates on selling pipe rehab jobs. According to company metrics, if a technician inspects a line within 24 hours of a customer's call for service, the odds of successfully selling the job jump by 33%.



<b>COMPANY</b>	Cellino Plumbing, Heating & Cooling, Buffalo, New York
<b>OWNERS</b>	Tony and Lucas Cellino
<b>TECHNOLOGY</b>	One-Key asset-tracking app from Milwaukee Tool
<b>FUNCTION</b>	GPS tracking of tools and machines
<b>BENEFITS</b>	Reduces time wasted searching for tools and lock-out function renders stolen tools unusable; provides service and maintenance reminders; offers valuable utilization data for maximizing productivity and efficiency.
<b>COST</b>	Approximately \$30 per Tick (tracking device)
<b>WEBSITE</b>	<a href="http://www.cellinoplumbing.com">www.cellinoplumbing.com</a>
<b>MILWAUKEE TOOL ONE-KEY WEBSITE</b>	<a href="http://onekey.milwaukeetool.com">onekey.milwaukeetool.com</a>

"Because sewer-rehab jobs generate our highest profit margins, it becomes critical to get those cameras on site as quickly as possible — and One-Key helps us do just that," he says.

## REDUCE INVENTORY LOSS

The company has installed about 150 Ticks on a wide range of equipment, including non-Milwaukee Tool devices such as RIDGID drain machines. The business does plumbing service and repairs, pipe bursting (using

“With this tracking system, we’ve reduced inventory loss (on trucks) by almost half, down to 5% from 9%. We believe just having a strong system of tracking and replenishing holds the techs accountable for properly tracking part use.”

*Lucas Cellino*

equipment from Pow-R Mole Trenchless Solutions), pipeline rehab (using Pipepatch point-repair technology from Source One Environmental) and HVAC work.

The business also owns an O’Brien water jetter (3,000 psi at up to 14 gpm), a brand owned by Hi-Vac Corp.; and an Isuzu jetting truck equipped with a Hackney box body and a U.S. Jetting 4018 water jetter (4,000 psi at up to 18 gpm).

Even the parts bins in the Hackney shelving systems installed in most of the service trucks are entered into the One-Key database. Tracking the bins helps support a parts-replenishment program, in which all bins are removed from each truck once a month and replaced with fully restocked bins. Then the bins that are removed get fully restocked and placed in another truck, Cellino says.

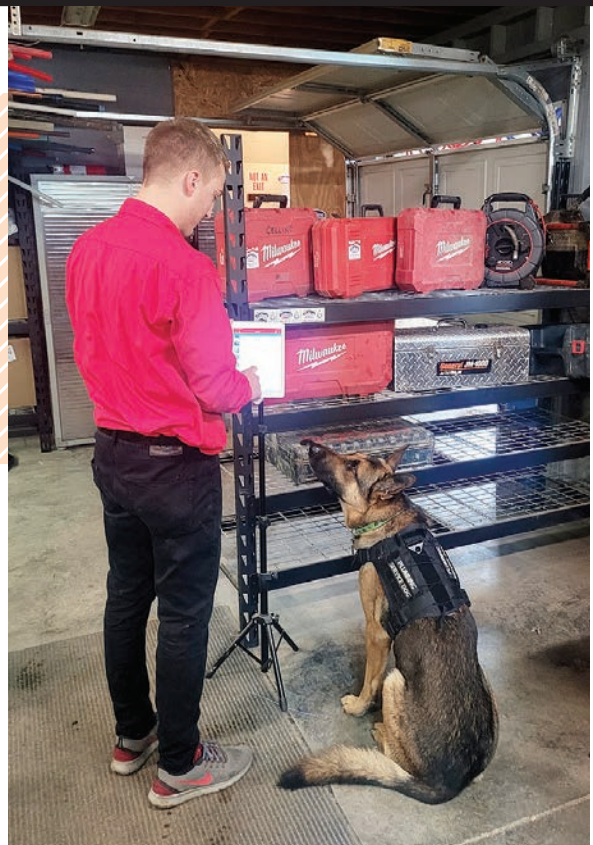
“With this tracking system, we’ve reduced inventory loss (on trucks) by almost half, down to 5% from 9%. We believe just having a strong system of tracking and replenishing holds the techs accountable for properly tracking part use.”

## TRACKING TOOLS

Because the Ticks effectively are small Bluetooth devices, technicians — and company officials — always know the location of tools and machines. This comes in handy not only on job sites, but if tools are stolen, too, Cellino says.

Any time a phone or tablet that has the One-Key app installed passes within 100 feet of a Tick, it sends data to a cloud-based network, showing the date and time that particular tool was “seen,” as well as its location. A Tick, which typically costs between \$25 and \$30, is powered by a “coin” battery and can be glued, screwed, riveted or zip-tied to any device.

If a tool is stolen and marked as such on the app, a remote tool-lockout function renders it useless to thieves. And as soon as the One-Key network “sees” the stolen tool, it alerts the owner — even if the battery has been disconnected.



▲ Lucas Cellino, co-owner and president of Cellino Plumbing in Buffalo, New York, checks out a tool using the Milwaukee Tool OneKey asset-tracking system while Rex, the company’s mascot, looks on. (Photo courtesy Cellino Plumbing)

Furthermore, the app provides utilization data that shows how long tools and machines are used. It also provides a digital breadcrumb trail that shows when, where and how tools are used, which helps companies maximize efficiency and productivity. The technology even can provide tool and machine maintenance and service reminders.

Setting up the One-Key system is simple and technicians find it easy to use. The most time-consuming part is entering all the equipment into the Milwaukee Tool database; that took about a day, Cellino says.

“Then all the technicians need to do is download the app and it works like a charm. Downloading the app actually is the hardest part.”

Overall, Cellino says the One-Key technology is a worthwhile investment that has more than paid for itself.

“It has increased our efficiencies and eliminated the stress of looking for missing tools. Time is money and you can waste a lot of time and energy searching for tools. It’s very demoralizing when you’re on a job and can’t find a tool you need to finish a job.” 📱



Jeff Haden

# The Simple Spreadsheet

Logging real-time revenue and expenses helps you know when to hold the line on spending and when to invest in your company's growth

By Jeff Haden

**I** imagine you could run a 200-employee business with millions of dollars of revenue with one simple spreadsheet. If you're like many small-business owners in the drain cleaning industry, that probably sounds great.

While booking sales and revenue can be fun, logging expenses, calculating depreciation, creating reports, preparing for tax season, that all seems tedious at best. And, if you're like me, it's easy to put off those tasks until another day. In part, that's because bookkeeping and accounting functions tend to focus on the past. Profit-and-loss reports, balance sheets and so on record what has already happened.

While understanding the past is undoubtedly important, when you're running a business, you need tools that allow you to make smart decisions about the future.

That's why Pini Yakuel and Shachar Cohen used one spreadsheet to launch — and for six years, manage — their startup Optimove, an artificial intelligence-driven relationship management platform. Their business now has over 200 employees and serves customers like Sephora, Family Dollar, and Dollar Shave Club.

## Four numbers

Early on, Yakuel and Cohen kept their day jobs while taking consulting gigs on the side and investing revenue back into the business. “We had a plan in place for making

money,” Yakuel says, “[but] our business was growing and changing rapidly. Creating an annual forecast or measuring estimated versus actual spending wouldn't have told us much about our business.”

Instead, they set up a spreadsheet to track four key numbers:

- Costs by month: Rent, supplies, salaries — every cost
- Revenue by month: Services, products sold, subscriptions, etc.
- Revenue gap: The difference, positive or negative, between costs and revenues
- Cash buffer: Money in the bank

While that might sound like basic accounting, the next point is vital: The company logged expenses and revenue not just after they occurred, but before.

If a contract was signed that would start generating revenue next month, that figure gets logged into the spreadsheet. If a freelancer was hired to work on a project next month, that figure was logged into the spreadsheet.

Unlike cash basis accounting, where expenses are only logged when a bill is actually paid, and accrual accounting, which recognizes costs when billed, the spreadsheet resulted in a hybrid method of financial planning.

By always knowing — in real time — the amount of cash on hand and what would be spent and earned in the coming months, Optimove could use that snapshot to make smart decisions about where to invest the company's money.

## Spend where needed

Yakuel explains: “For instance, we would add a new hire's salary to our calculation of monthly costs, even if their start date wasn't for another 90 days. Similarly, we added new client revenue as soon as the contract was signed.

“We could always see the amount we had available to invest back into the business. When this gap became substantial enough — for instance, after signing a new client — we would invest in

Continued ▶

While you won't be able to predict the future, you will know exactly where you stand and what you can afford to prioritize so you can keep your business moving forward.



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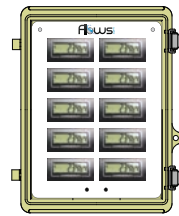


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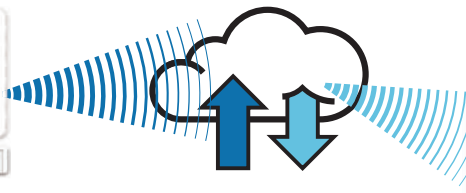


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the most immediate bottleneck, whether it was engineering talent, a bigger marketing budget or customer support resources.”

That approach allowed the co-founders to bootstrap their business, using the revenue to fuel growth. Instead of borrowing money or taking on investors to fund initiatives, they waited until their cash buffer allowed them to expand service and product offerings, to hire employees, to build out infrastructure and more.

It worked so well that six years later, Optimove took a \$20 million investment that valued the company at approximately \$100 million. The spreadsheet also worked so well that the co-founders didn’t need to spend time evaluating estimated sales versus actual sales. They didn’t create sales forecasts. They didn’t develop sales projections.

Yakuel and Cohen focused solely on the snapshot of the “present.”

In time, when their software had undergone six iterations and Optimove served hundreds of clients, the company’s finances had expanded dramatically. Revenues and expenses were up considerably. And so was the company’s cash buffer. When the founders eventually decided to take a \$20 million growth investment, their cash buffer stood at \$3 million.

“The fact that this financial model served us through years of growth attests to how well it embodied our [operating principle]: iterate quickly and invest every dollar back into the business,” Yakuel says.

## Make it work for you

For a business like my media company, the one spreadsheet tool is simple to use. Unlike, say, a retail business, I have relatively few customers. Day-to-day fluctuations in sales and revenue don’t really exist.

But what if you run a service-based business? Sure, history can give you a sense of future sales, but you never really know how a day will go until the end of that day. In that case, spend a few minutes every day updating your spreadsheet in real time. Log daily revenue. Log any daily expenses that are outside expectations or “business as usual.”

Keeping the spreadsheet up to date will allow you to keep making smart decisions about the future. If sales double expectations today, great. That larger revenue gap and additional cash buffer might enable you to pull the trigger on a new project.

If sales are significantly down today, that’s not so great. But knowing your business’s financial health in real time can help you decide where and when to cut spending proactively.

For example, say you’re a niche company in the sewer and drain industry. You want to hire a new employee to expand your service territory, but you hesitate to do so until you have a six-month salary buffer to bridge the revenue gap while you attract new customers. Your spreadsheet will cut through the accounting clutter and tell you when to pull the hiring trigger.


## Another tool

While you won’t be able to predict the future, you will know exactly where you stand and what you can afford to prioritize so you can keep your business moving forward.

The key is to see your spreadsheet as an additional tool, not a replacement for traditional bookkeeping and accounting. You’ll still need to track inventory, manage payables and receivables, track sales and costs, manage payroll — all the financial nuts and bolts of operating a business.

So in that sense, yes, keeping a simple spreadsheet is extra work. But that’s OK because your spreadsheet will be a dashboard that lets you see, in real time, exactly where you stand in terms of revenue gap. You’ll know ahead of time whether you need to cut costs, or if you can afford to invest in efforts that will help you grow your business.

But you’ll have to stay disciplined. If you agree to a service contract that won’t start for 60 days, still log it now. If you sign a contract to service a new client on a monthly basis, but you won’t start receiving revenue for 60 days, still log it now. That way, you can make decisions in real time, not after the fact.

After all, the best decisions are proactive. And when you’re building a business, that’s precisely what you need to be. 

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*Jeff Haden is a contributing editor for Inc.com and a LinkedIn Influencer.*

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 <b>CUES</b> 3600 Rio Vista Ave., Orlando, FL 32805 800-327-7791 ■ (f) 407-425-1569 salesinfo@cuesinc.com ■ www.cuesinc.com	CUES	2" to 200"	100' to 4000'	CD, Compact Flash, DVD, DVR, Flash Drive/USB Thumb Drive, HDD, SD Card, VHS, Wi-Fi	✓	✓	✓	✓	✓	Water, Gas	Sewer, Pipe
<b>Duracable Manufacturing Co.</b> 300 Ashworth Rd., West Des Moines, IA 50265 800-247-4081 sales@duracable.com ■ www.duracable.com <b>ad on page 15</b>	RIDGID, Picote, APS, Drain Gear, General Pipe Cleaners, Fisher	1" to 12"	30' to 325'	Compact Flash, DVD, Flash Drive/USB Thumb Drive, SD Card, Wi-Fi	✓	✓	✓			Water	Sewer, Pipe, Leak
 <b>Electric Eel Mfg.</b> 501 W Leffel Ln., Springfield, OH 45501 800-833-1212 ■ 937-323-4644 (f) 937-323-3767 info@electriceel.com ■ www.electriceel.com <b>ad on page 45</b>	Electric Eel Mfg.	3" to 10"	200' to 300'	HDD, Flash Drive/USB Thumb Drive			✓				
 <b>General Pipe Cleaners</b> 1101 Thompson Ave., McKees Rocks, PA 15136 800-245-6200 ■ 412-771-6300 info@drainbrain.com ■ www.drainbrain.com <b>ad on page 56</b>	Gen-Eye, Gen-Ear	1.25" to 10"	100' to 400'	Flash Drive/USB Thumb Drive, Wi-Fi, SD Card			✓	✓		Water	Electric, Sewer, Pipe, Leak
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<p><b>Hermann Sewerin GmbH</b> 100 Home Rd., Hatboro, PA 19040 888-592-9916 sewerin-usa@sewerin.net www.sewerin.com/us/ ad on page 47</p>		3" to 8"	200' to 330'	DVR, Flash Drive/ USB Thumb Drive SD Card, WiFi						Water, Gas	Pipe, Leak
<p> <b>MyTana</b> 746 Selby Ave., St. Paul, MN 55104 800-328-8170 ■ 651-222-1738 (f) 651-222-1739 mytana@mytana.com ■ www.mytana.com ad on page 37</p>	MyTana DrainTracker, NG2, PGR Systems	1.5" to 12"	50' to 400'	DVR, Flash Drive/ USB Thumb Drive, Wi-Fi, SD Card	✓	✓		✓		Water	Sewer, Pipe, Leak
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**A**spen Mountain Plumbing has a unique truck that stands out not only for different look as trucks go, but also because the colors say “Wyoming.” The company, based in Rock Springs, Wyoming, uses the same colors as the only four year university in Wyoming. The logo, a gold leaf (in the shape of an aspen tree leaf) also incorporates a wrench and water drop. Owners Lance and Kelli Ball had the rebranding done in 2019 by Prolific Prints. The company has become one of the fastest growing plumbing companies in Wyoming with a seven truck fleet. Aspen Mountain Plumbing trucks are 2019 and 2020 Promaster 3500’s with the Unique Knapheide beds to give techs faster access to their parts. All trucks have a hidden ladder rack built into the back of the truck, as well as easy access pipe doors on the back. They are tall enough to work in, yet short enough to not be affected by the wind. The back has plenty of room for all tools and equipment and still enough room to carry larger water heaters or appliances. At the push of a button the techs can lock all parts doors and unlock, to keep everything safe from theft. All truck bins are set up the same so no matter what tech drives what truck, so they always know the setup of the truck. This increases efficiency and performance for the customers. For more information on Aspen Mountain Plumbing, go to [www.aspenmtnplumbing.com](http://www.aspenmtnplumbing.com). **PI**



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Randy Lorge

# Adding Up

Assigning the water supply fixtures to the various branches is the first step in determining the minimum pipe sizes

By Randy Lorge

In my last column “Totally Loaded” in January, we examined plumbing codes and determined how to properly assign the “total” load of the water distribution system. This month, we’ll take the next step in the process and assign the Water Supply Fixture Units (WSFU) to the branches and begin to determine minimum pipe sizes.

Table 1  
Water Supply Fixture Units for Nonpublic Use Fixtures

Type of Fixture*	Water Supply Fixture Units (wsfu)		
	Hot	Cold	Total
Automatic Clothes Washer	1.0	1.0	1.5
Bar Sink	0.5	0.5	1.0
Bathtub, with or without Shower Head	1.5	1.5	2.0
Bidet	1.0	1.0	1.5
Dishwashing Machine	1.0	1.0	1.0
Glass Filler	—	0.5	0.5
Hose Bibb:			
1/2" diameter	3.0	3.0	
3/4" diameter	4.0	4.0	
Kitchen Sink	1.0	1.0	1.5
Laundry Tray, 1 or 2 Compartment	1.0	1.0	1.5
Lavatory	0.5	0.5	1.0
Manufactured Home	—	15	15
Shower, Per Head	1.0	1.0	1.5
Water Closet, Flushometer Type	6.0	6.0	
Water Closet, Gravity Type Flush Tank	2.0	2.0	
Bathroom Groups:			
Bathtub, Lavatory and Water Closet-FM†	2.0	7.5	8.0
Bathtub, Lavatory and Water Closet-FT	2.0	3.5	4.0
Shower Stall, Lavatory and Water Closet-FM	1.5	7.0	7.5
Shower Stall, Lavatory and Water Closet-FT	1.5	3.0	3.5

\* For fixtures not listed, factors may be assumed by comparing the fixture to a listed fixture which uses water in similar quantities and at similar rates.  
 † FM means flushometer type.  
 ‡ FT means flush tank type.

As I’ve mentioned in the past, various plumbing codes have their own unique methods of assigning loads to the water distribution system and, of course, sizing it.

For the remainder of my articles, I will focus on using only one code to keep

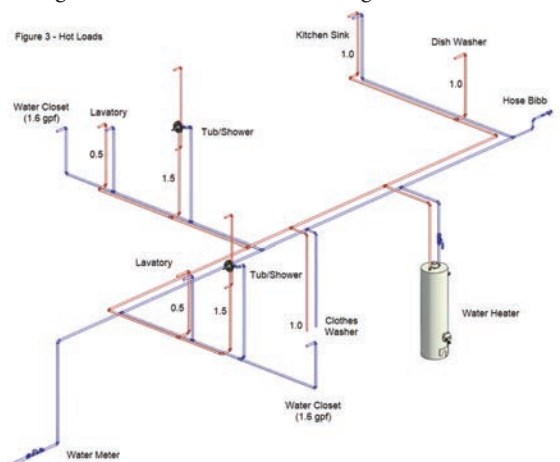
this from becoming too complex and wordy by jumping from code to code. Always remember to use the plumbing code in your area.

Let’s do a quick review of what we accomplished in the last column.

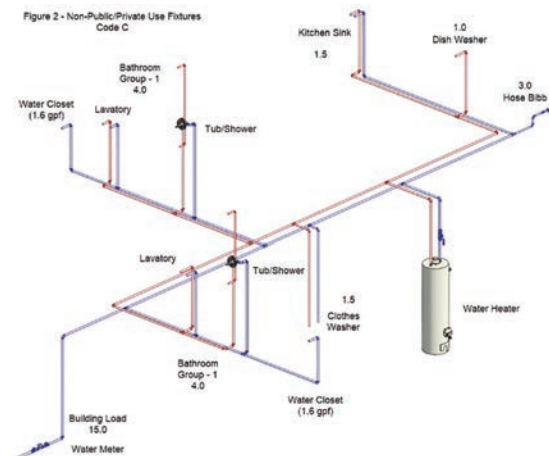
By using Table 1 (left), we assigned the total WSFU to Figure 2. Our total WSFU for Figure 2 was 15.

The next step is to assign the remaining hot loads back to the water heater and then the remaining cold loads back to the water meter. Let’s start with the hot loads. First, let’s go back to Table 1 and determine the hot loads which will be assigned to each fixture. The first column, labeled “hot” indicates the hot load for each of our fixtures requiring hot water.

Figure 3 shows the hot loads assigned to each fixture.



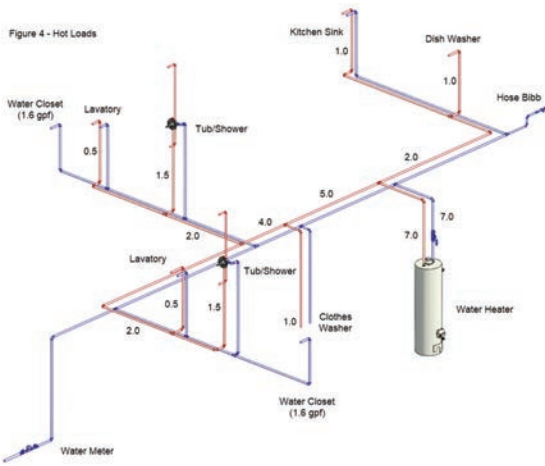
Next, we’ll add the hot loads back to the water heater. See Figure 4. Special note: Never exceed a hot load. Notice that bathroom groups also have hot, cold, and total loads. When each of the groups’ hot water fixture branches connect together, you must verify that you have not exceeded the hot load for the group.



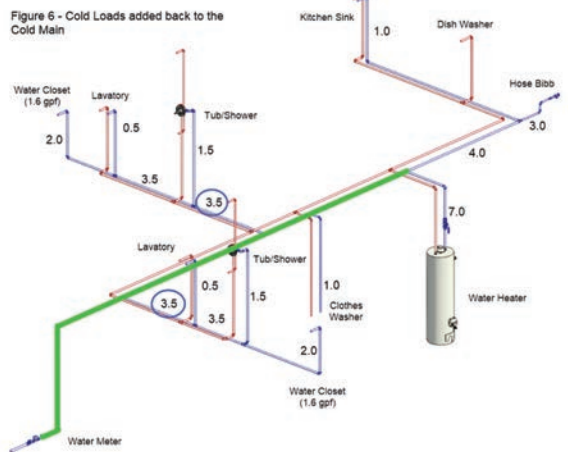


Also remember that whatever the hot load is out of the water heater, is the cold load into the water heater.

In other words, this codes table has accounted for the unlikelihood that all three fixtures will be using cold at the same time and given a .5 WSFU credit to the fixtures where they tie their branches together.



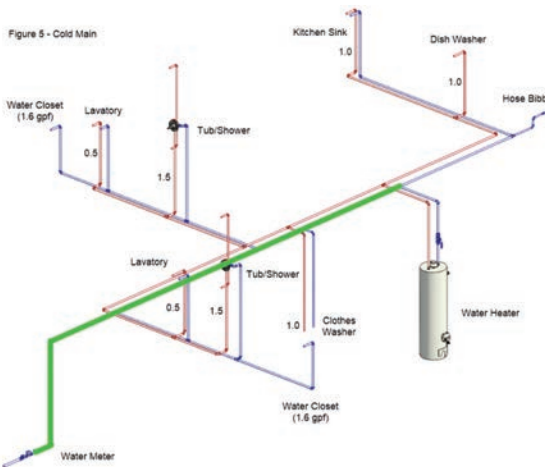
Next, we'll assign the cold loads to each individual fixture branch and add them back to what I will refer to as the cold main. The cold main is the pipe that runs from the water meter to the tee — which feeds the cold to the water heater. I have highlighted the cold main in green.



At this point you may be asking yourself why it is so important that we load the water piping with the WSFU. The answer is that without the loads assigned, we cannot assign a pipe size which is our end goal. I will add that while having the WSFU assigned to each segment of pipe aids in sizing, the same thing can be accomplished if the gallons per minute were determined along with other variables we'll discuss later.

We are almost to the end of assigning the loads to the piping. The next step is critical in making sure the loads add up to the total load of the building which is 15 WSFU.

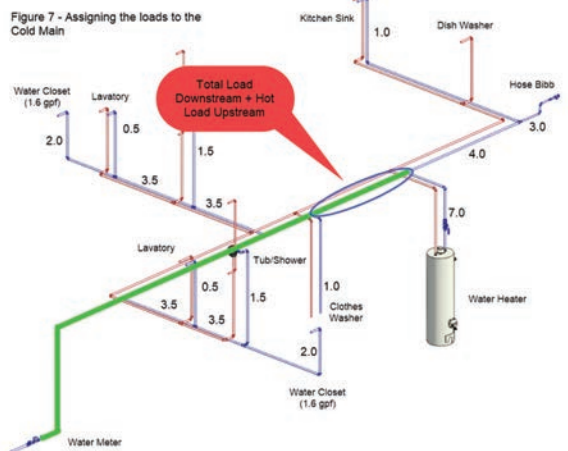
For this step, we will focus on the segment of cold main piping immediately before the tee to the water heater. Here we take the total load downstream and add it to the hot load upstream to determine the WSFU.



Again, we go back to Table 1 and determine the colds for each of the fixtures in our design (the second column on the table). Using Table 1 for the cold loads, always remember to never exceed a cold load.

Notice that bathroom groups also have hot, cold and total loads. When each of the groups' cold fixture branches connect together, you must verify that you have not exceeded the cold load for the group.

When you add up the cold loads individually for a lav (0.5), tub/shower (1.5) and water closet (2.0) it equals 4.0 WSFU. However, when we look at the cold load for the bathroom group (using this code) it equals 3.5 WSFU. This discrepancy is due to the probability of simultaneous use.



Here, you really need to focus on your water sizing vocabulary. Thus far we have assigned total loads (an

As I've mentioned in the past, various plumbing codes have their own unique methods of assigning loads to the water distribution system and, of course, sizing it.

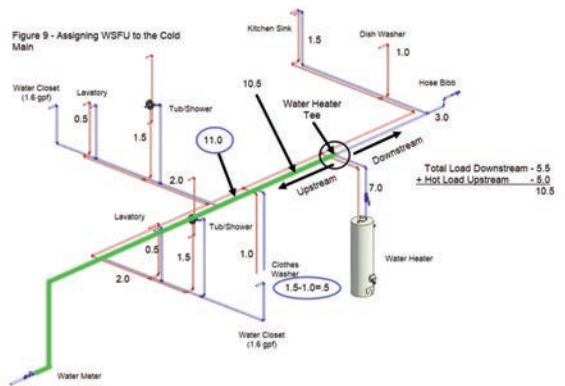
assigned value representing both hot and cold), hot loads and cold loads to various parts of the system.

Another thing that needs to be pointed out is “downstream and upstream” as it relates to the tee for the water heater. A downstream fixture is any fixture served with cold and/or hot water after the water heater tee. In this case the kitchen sink (1.5), dishwasher (1.0) and the hose bibb (3.0) are fed with cold/hot water and located downstream of the tee serving the water heater cold water.

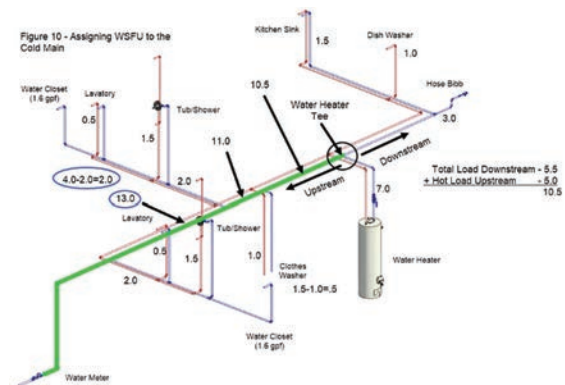
The total loads from Table 1 add up to 5.5 WSFU. The hot loads upstream (5.0 WSFU) would be the hot WSFU from any fixture that was served before the cold supply to the water heater tee. When added together, the load on the pipe immediately before the water heater tee is 10.5. This section of pipe serves/supplies both the hot and cold water (or total) loads to the fixture downstream of the tee to the heater and then turns around and serves/supplies the hot water to the fixtures upstream that were already fed with cold water.

main” and the “total” loads of those fixtures minus their “hot loads.” The difference of these loads will be assigned back to the “cold main.”

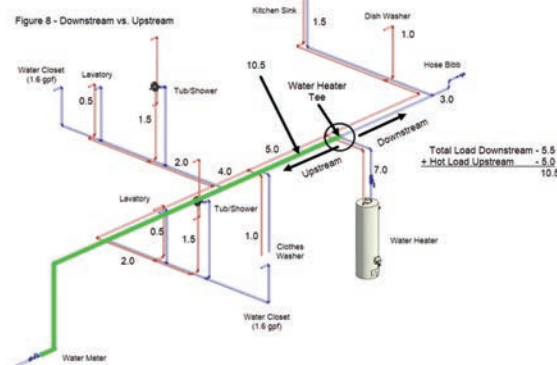
Let’s start with the first branch, which connects to the cold main upstream of the tee to the water heater. Take the total load (1.5 WSFU) of the clothes washer and subtract its hot load (1.0 WSFU) served through the water heater.  $1.5 \text{ WSFU} - 1.0 \text{ WSFU} = .5 \text{ WSFU}$ . Add the difference to the cold main (0.5 WSFU) to 10.5 WSFU on the previous segment of pipe immediately before the water and our new load is 11.0 WSFU. See Figure 9.



Continue this process for the next branch to the bathroom group that connects to the cold main. The total load for the bathroom group is 4.0 WSFU. Subtract the hot load for the group (2.0 WSFU).  $4.0 - 2.0 = 2.0$ . The difference is 2.0. Add the difference to the cold main and the new load is 13.0 WSFU. See Figure 10.



We only have one branch left. If the difference added back to the cold main = 15 WSFU, which was our building load when we originally started, we have successfully loaded all the pipe. See Figure 11.

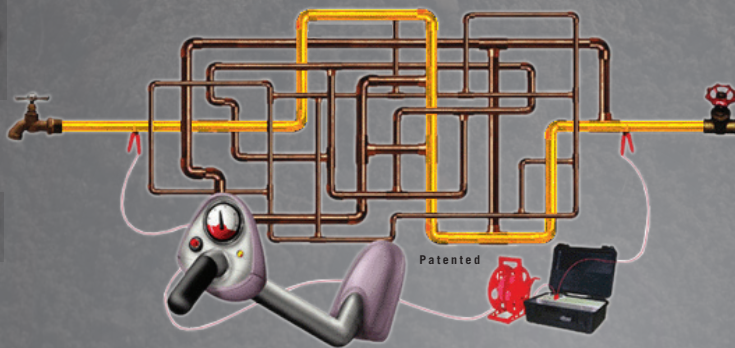


If you can conquer this concept in assigning loads to the water distribution system, the remaining loads should be a breeze to assign. If not, practice makes perfect. Review, review, review!

From this point back to the water meter, our focus will be on the cold branches that connect to the “cold

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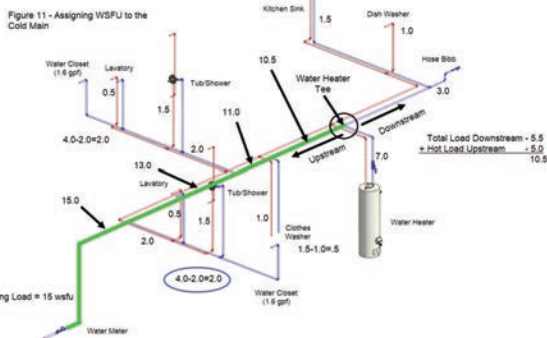
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We did it! Our loads equaled out and all the water distribution piping is properly loaded. In my next article we'll get deeper into sizing but for now, you can see that the things are adding up.

*Randy Lorge is a third-generation plumber and the director of workforce training and development for the International Association of Plumbing and Mechanical Officials (IAPMO). Lorge is also a member of the planning team for the International Water, Sanitation and Hygiene Foundation (IWSH). This 501(c) (3) foundation has completed water and sanitation projects for those less fortunate in India, South Africa, Indonesia and, more recently, the United States. He enjoys time with his family and spending as much time as possible in his deer stand. To contact Lorge, email [editor@plumbermag.com](mailto:editor@plumbermag.com).*



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Jennie Lyon

# Time for a Fresh Look

It's probably long past the time to review your online presence and see how you stack up against the competition

By Jennie Lyon

**A**lmost every business could use some website spring cleaning. Even a well-managed website eventually needs to be revamped with an updated interface, fresh design, improved functionality and a reorganization of content.

As your products and services evolve, some of the web copy on your site might be inaccurate, requiring some updating. Maybe you are still using outdated search engine optimization techniques that are hurting where you are showing up in the search results.

Thankfully, you can address all of these problems with a simple tidying up. So, let's get into the spirit of the spring season and do a cleaning! Here's how I go about doing website updates for my clients (and me, to be honest).

## WEBSITE AUDIT

How long has it been since you've gone through your own website? Chances are that it's been a while. Most people go through everything once their site is complete and rarely do it again. However, over the years, links to pages can break, images can vanish and security measures that protect you from hackers can become outdated. Your SEO score might be dragging you down because you haven't updated your search techniques. Or you might be asking yourself, SEO, what's that? Or how do I do that?

Before diving deep into your site, you want to do a quick tour. From the home page, click around the site, checking out pages to see if they flow into each other

logically. Don't profoundly analyze everything; just try to take in the general user experience. Come at it from the point of view of a new customer. Are you able to navigate your website with ease? Is the information where you would expect it to be? Is there anything that makes you go, "Hey, why isn't that working?"

Your main goal is to find out, when someone pops into your website, do they know who you are, what you do, how that benefits them, and is there a call to action where they can easily see it? You only have a few seconds to hook someone when they land on your website, so this is imperative.

Then as an experiment, go to the website of your biggest competitor and do the exact same thing: take a tour of their site. What kind of user experience are they offering their customers? If it blows yours out of the water, then you know you need some help.

There are also parts of a website audit that you might not have experience in. For example, do you know how the back end of your website works? If not, you might be missing critical security updates or new features that will keep your website looking and functioning at its best. For this you might want to seek professional help.

After your tours/audits, you will know just how much needs to change on your website for the refresh.

## HOME PAGE TWEAKS

Unless you created your website more than five years ago, your home page is probably in reasonably decent shape with a sufficiently modern design. However, there's probably still lots of room for improvement.

First, take a look at the top of the home page. This is the first thing that your customers will see when they go to your website. What kind of impression does the top of the main page make?

Continued ▶

Most people go through everything once their site is complete and rarely do it again. However, over the years, links to pages can break, images can vanish, and security measures that protect you from hackers can become outdated.



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The next place you want to look is at your small business logo in the upper-left corner of the page. This logo not only keeps your branding front of mind, but it also usually doubles as a “home” button to get visitors back to the home page. It might be the single most crucial component of your website, which is why I’m constantly amazed how many small business owners leave it as an afterthought. Are you still happy with your logo?

Finally, carefully read through all of the copy on your home page. Don’t skim it; really delve in. If there is too much, the average person isn’t going to read it. On the flip side of the coin, having too little will result in them thinking that you don’t offer the solutions they need. Either way, they’re going to click off and look for your competitor’s site instead.

Thankfully, there is a happy medium when it comes to home page web copy. My preference is story-driven, personality-infused web copy. You want your copy to be about your reader, not about you. It needs to tell a story to pull them in and then hook them with all of your amazing benefits.

## LOOKING AROUND

One of the first things a visitor will do when they land on your website is to look at the navigation bar to scan what you offer. That’s why you need to have everything they need logically laid out right at the top of your home page. You don’t want to provide too many choices because they might get confused about where to go first. Similarly, giving them only one or two options will leave the impression that you have a barebones site with no actual content to offer.

My personal recommendation is that you need at least five basic links in the navbar: About, Services, Blog, Testimonials and Contact Us. If you want to expand on any of those topics, it’s best to build drop-down menus rather than add way more links to the top of your website.


On the whole, these five categories are pretty standard, providing most users what they’re looking for

The more free content you offer, such as blog posts, the more you will have to provide potential customers. But over time, your blog page can start to get a bit cluttered. Make sure all of the links to your blogs still work. This process can be time-consuming, depending on how many blogs you have, but well worth it. A “Page Not Found” message might as well be a red light flashing at users, telling them to look elsewhere for a service provider.

Next, how is the organization of your blogs? If you have a few years’ worth, then the older ones are probably buried under a ton of other content. You never want to clutter your “Blog” page with countless links, so I recommend using a grid pattern to keep them organized.

Finally, how dated are your blogs? A blog you wrote about back in 2015 could be hopelessly outdated. Going through these old blogs and renovating them with updated information will make sure that the information on your website is accurate. It also presents you with opportunities to post those old blogs as “new” content.

## SEO UPDATES

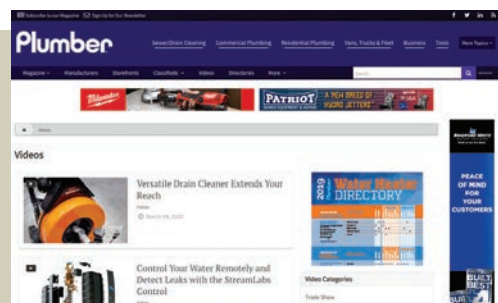
Another reason why you might want to update your old blogs is to make sure they are utilizing modern SEO techniques. Search engine optimization is one of those “magical” things that web developers talk about that confuses the average person, but it’s very simple. SEO should make it easy for people to find your content. You can help by creating high-quality content, using smart keywords and key phrases, regularly updating your website, and much more. 

*Jennie Lyon is the owner/operator of Jennie Lyon Digital Marketing & Virtual Services. Learn more at [www.jennielyon.com](http://www.jennielyon.com).*



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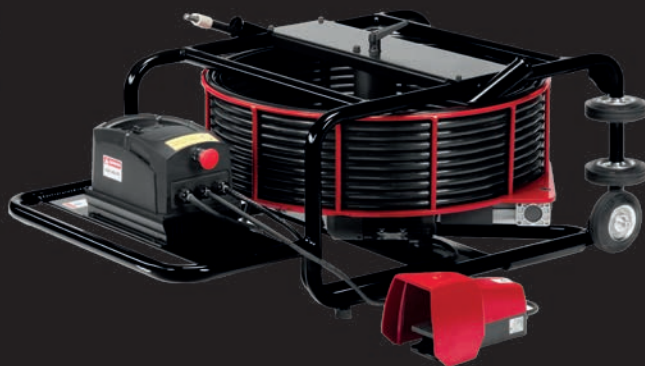
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By Craig Mandli

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The color camera is self-leveling and includes a powerful, convenient, always-on 512 Hz transmitter for quick and precise area determination. The antiglare LCD monitor delivers a clear, crisp picture even in direct sunlight. To record video inspections, connect a USB storage device directly into the USB port. The DVR outputs HD-quality videos, which can be stored and shared from a mobile device. 714-453-9760; [www.epls-usa.com](http://www.epls-usa.com)

### Forbest Products FB-PIC3388MT-200

The **FB-PIC3388MT-200** from **Forbest Products** has a 1.5-inch self-leveling camera head (512 Hz built-in sonde transmitter in the spring kit), 200-foot pushrod and a portable control station with a 10-inch LCD screen. It is suitable for lines from 4 to 8 inches. It has a detachable and interchangeable design that allows the user to easily screw on or off parts for upgrading or repair. 877-369-1199; [www.forbestusa.net](http://www.forbestusa.net)



### Hathorn Wi-Fi DuraSCOPE

**Hathorn's Wi-Fi DuraSCOPE** inspection cameras offer the convenience of streaming video inspections to an Apple or Android mobile device using the free PipeSTREAM app. It can be used to take screenshots, overlay voice commentary and

share videos with up to four devices. It has the choice of **DuraCAM** self-leveling or straight-view camera heads in multiples sizes and an on-screen footage counter. Municipal-grade camera reels are built tough, with butt-welded steel-frame construction, stainless steel camera heads and a choice of HDPE premium pushrod size allows the user to push far and remain in the field longer. It has 512 Hz sonde control and external 18-volt Milwaukee battery compatibility for quick swap-outs and longer time in the field. 866-428-4676; [www.hathorncorp.com](http://www.hathorncorp.com)



### INSPECTORCAMERAS.COM Scout 3-Pro Red 35

The **Scout 3-Pro Red 35**, distributed by **INSPECTORCAMERAS.COM**, is a rugged yet compact sewer inspection camera that is easy to use and is supplied with a 1-inch self-level color camera head, 512 Hz sonde transmitter, distance/foot counter, time and date stamp, on-screen text writing capability and MP4 color video recording with snapshot picture function. The 115-foot heavy-duty pushrod cable provides a blend of flexibility and stiffness to allow use in a variety of pipes and conditions. The camera controls are fully self-contained inside an easily removeable control case for use in confined or restricted spaces. 603-267-0400; [www.inspectorcameras.com](http://www.inspectorcameras.com)

### Milwaukee Tool M18 Pipeline Inspection System

The **M18 Pipeline Inspection System** from **Milwaukee Tool** is built around the M18 500 GB Control Hub. The hub powers both the 120- and 200-foot pipeline inspection reels and can easily be swapped between them. Both reels feature a 1080p HD self-leveling camera head and a push cable built to withstand the harsh conditions when navigating through cast iron, clay and PVC pipes. Technicians can digitally zoom and pan up to 4X, making it easier to focus on the point of interest. View, record, edit and share videos from the wireless monitor or the Milwaukee Pipeline Inspection app on a mobile device. The integrated ONE-KEY technology provides the ability to track the tool's location, manage it in inventory, and lock out the tool if it is ever lost or stolen. 800-729-3878; [www.milwaukeetool.com](http://www.milwaukeetool.com)



### MyTana PGR400

**MyTana's PGR400** push camera has the range and rigidity to inspect long laterals and small mains, with the choice of a 400- or 325-foot pushrod for use in lines 4 to 12 inches in diameter. The reel has a brake with adjustable drag to help manage the pushrod as you work. A self-leveling camera head with adjustable LED illumination delivers crisp video footage and includes a built-in 512 Hz sonde.



The control box mounts securely on a full swivel bracket so you can position the 12-inch daylight-readable monitor for best viewing. All-digital recording lets you save footage to internal storage or USB flash drive. Operators can also stream video wirelessly to multiple devices. The rugged frame has balanced weight and anti-skid feet for easy maneuvering. A skid and camera guides for the camera head help jump offsets and navigate bends. **800-328-8170; www.mytana.com**



### RapidView IBAK North America MicroLite Pushrod System

The **MicroLite Pushrod System** from **RapidView IBAK North America** is a lightweight, small-diameter push system with durable steel-frame construction that delivers a high-quality image for all contractors and plumbers. Fitted with 100 feet of push cable,

powerful LED lighting and an auto-uprighting camera, it is designed to inspect pipelines 2 to 4 inches in diameter. The entire system is powered by rechargeable batteries and is equipped with the positionable **MicroLite Command Console**, which includes a 10-inch touch-screen monitor, full Windows operating system, two USB connections and recording software. **800-656-4225; www.rapidview.com**

### Ratech Electronics Plumber's Helper Jr.

The **Plumber's Helper Jr.** pipe inspection system from **Ratech Electronics** is based on a small-scale reel and comes with 100 feet of mini Gel Rod cable, a removable compact command module with 7.1-inch LCD, a built-in battery and an SD recorder for recording digital images and video. This mini pipe inspection system is available with a full-spectrum, 1.375-inch, self-leveling color camera; a standard color camera; or any of the company's three micro camera heads — 5/8-, 3/4- or 1-inch diameter. **905-660-7072; www.ratech-electronics.com**



### RIDGID SeeSnake Compact C40 with CS6x Versa Camera System

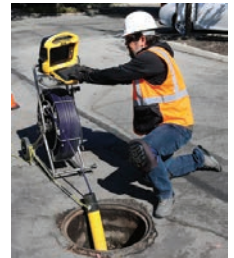
The **RIDGID SeeSnake Compact C40 with CS6x Versa Camera System** features a 25 mm self-leveling camera head and 131 feet of flexible push cable that is



suitable for small/restricted branch lines with tight turns and shorter runs in main laterals. It includes a high dynamic range image sensor, TiltSense inclinometer and integrated TruSense technology. Its quick-release docking system makes it suitable for pairing with the **CS6x Versa** digital reporting monitor. An ergonomic, all-in-one solution for capturing media, the monitor has a 5.7-inch daylight-viewable display that provides a crisp, clear in-pipe image. It offers multiple mounting positions with an adjustable kickstand to suit job site conditions and can be tilted to the desired viewing angle while docked or removed for convenient placement. **800-474-3443; www.ridgid.com**

### Vivax-Metrotech vCam-6

The **vCam-6 HD** inspection system from **Vivax-Metrotech** includes features such as text writer, voice-over, locatable sonde and traceable pushrod as standard equipment. The standard reel is available with 200, 300 or 400 feet of pushrod and the choice of a 1.3- or 1.8-inch self-leveling HD camera. The system includes a daylight-viewable control module with a 9.7-inch HD LCD monitor, distance counter and internal rechargeable batteries with five-plus hours of battery life. Video recording and JPG-format pictures can be saved to the internal 1 TB hard drive. The control module has built-in Wi-Fi to stream live video and snapshots to the **vCam Live View Mobile** app. **800-446-3392; www.vivax-metrotech.com**



## Electronic Leak Detection

### FloLogic System

**FloLogic** offers a smart leak detection and automatic shut-off system with industrial-grade cast bronze valves in sizes up to 2 inches. It features comprehensive real-time leak detection, detecting leaks as small as a half-ounce per minute from the moment they start. When a leak is detected, the water is shut off automatically and the users receive an alert through the smartphone app. The **FloLogic CONNECT** module also features a thermometer, allowing low room temperature alerts and automatic water shutoffs. All systems



are equipped with battery backup for continued protection during outages. Plumbers who sell and install FloLogic can help their clients secure their home against plumbing supply leak damage and can help them save hundreds annually on property insurance. **877-356-5644; [www.flologic.com](http://www.flologic.com)**

### General Pipe Cleaners GEN-EAR

The GEN-EAR acoustical leak detection system from **General Pipe Cleaners** quickly and accurately locates leaks in PVC, cast iron, copper and steel lines. It also pinpoints problems in a wide variety of work, soil and surface conditions. The system's Digital Spectrum Analyzer with 16 audio filter combinations reliably removes ambient noise interfering with accurate leak detection. So instead of traffic, wind or machinery sounds, operators hear the "whoosh" or "hiss" of water leaks through high-quality headphones. Two specially designed sensors detect the "gurgling" or "hammering" caused by cracked pipe beneath the ground. The ground sensor pinpoints problems through hard surfaces like concrete, asphalt or tile. The probe sensor locates leaks beneath soft surfaces like grass or carpet, and also functions as a contact probe for above-ground pipes or hydrants. Both feature wind-proof, shock-resistant housings to reduce unwanted noise. And both sport interchangeable components to maximize job site reliability. **800-245-6200; [www.drainbrain.com](http://www.drainbrain.com)**



when directly over a utility locate, providing positive confirmation. These graphics deliver increased confidence, locate consistency and operational performance. The data automatically captured can be used by operators to quickly prove or track performance, compare with benchmarks and provide actionable outcomes to help increase quality and productivity while reducing cable strikes. In addition to data-logging capabilities, it is equipped with integrated GPS positioning, enabling crews to improve activity reporting. **800-846-2713; [www.subsite.com](http://www.subsite.com)**

## Smoke Locators

### Cherne Residential Plumbing Smoke Blower

The **Cherne Residential Plumbing Smoke Blower** is a fast and easy leak-detection system. The blower uses long-lasting dense smoke that is pumped into a plumbing system to identify leaks quickly and efficiently. Featuring a 5-foot, heavy-duty hose that fits a 4-inch cleanout tee, the blower is lightweight and corrosion-resistant. With exhaust pumped through the plumbing, the blower can be used indoors and easily transported with its top-mounted carrying handle. Its efficient 122-CC, 3.5 hp, four-stroke Honda engine provides more than 700 cfm, making it fast, easy and safe to determine plumbing-problem areas. Through vibration damping, excess movement and noise are also minimized, creating a smoother and more efficient experience. **800-843-7584; [www.oatey.com](http://www.oatey.com)**



## Electronic Pipe Location

### Subsite Electronics UtiliGuard 2

The **UtiliGuard 2** from **Subsite Electronics** provides locate crews with integrated data capture, GPS positioning and an intuitive user interface to help operators improve work quality and maximize locate awareness. Operators get an in-depth understanding of locating activity by documenting locate accuracy and operations performance for more consistent results on job sites. The user interface offers simplified graphics that are easy and fast to interpret. Operators will notice an obvious change in screen layout



### Hurco Technologies Power Smoker 2

The **Power Smoker 2** from **Hurco Technologies** quickly locates leaks in new and existing plumbing systems. The machine is connected to a clean-out, and smoke is sent through the system to reveal any problem areas. The system uses LiquiSmoke, a laboratory-tested safe smoke that costs cents per minute to use and has an indefinite shelf life. When the test is complete, the smoke dissipates without leaving any odor or residue. **800-888-1436; [www.hurcotech.com](http://www.hurcotech.com)**



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## Product FOCUS

### Superior Signal 5E Electric Smoker

When testing laterals and building plumbing, or pumping or inspecting septic tanks, smoke testing is a quick and effective way to find plumbing faults that lead to odors, leaks and inflow. The **5E Electric Smoker** from **Superior Signal** easily connects to any clean-out, port or vent to smoke test the entire system in just a few minutes. It gently pushes smoke throughout the system to find cracks and leaks and quickly identify problems, taking only minutes to set up and seconds to see the results. It comes complete with 8-foot industrial grade hose. Used with Superior Smoke Candles, this cost-effective solution is suitable for hard-to-find odors, leaks and other faults in commercial, residential and municipal facilities. **800-945-8378; [www.superiorsignal.com](http://www.superiorsignal.com)**




## Tracers

### Hermann Sewerin GmbH VARIOTEC 460 Tracergas

In pipeline systems in which the medium cannot be directly detected or when checking for leak sites using the electro-acoustic method fails, the tracer gas technique is a favorable alternative. The **VARIOTEC 460 Tracergas** from **Hermann Sewerin GmbH** has two sensors available



for above-ground inspection, measuring in bar holes, inspection of household installations and gas measurement. The gas-sensitive semiconductor sensor optimized for this method of measurement is responsible for above-ground inspection and inspection of household installations. Due to this specialization, it features very low cross sensitivity to other gases such as methane and minimal cross sensitivity to moisture. Indication errors that frequently occur when transitioning from dry to moist ground are thus avoided. **888-592-9916; [www.sewerin.com](http://www.sewerin.com)** 

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## Inspection, Location and Leak Detection

By Craig Mandli

Inspection camera able to  
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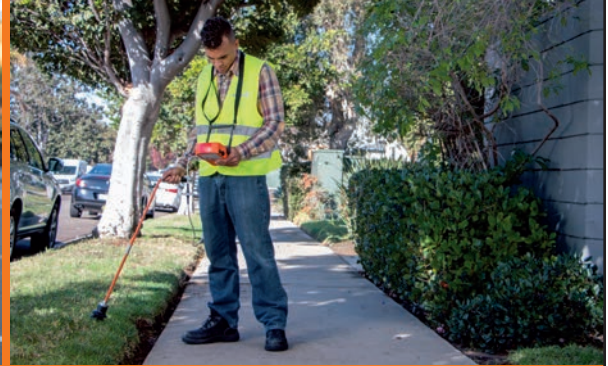


**Problem:** A midwestern drain cleaner that specializes in residential work was having an issue inspecting galvanized lines in a house. The company had a micro-drain camera it was using, but it was only able to navigate about 50% of the inspection areas.

**Solution:** After reviewing some information and videos on the **Miniflex** plumbing camera from **Medit**, the contractor called to discuss this unit and arranged a demo. In a bathroom sink, the Miniflex was able to go right into the drain and snake the line. In the tub, which was a plastic-lined pipe that turned into galvanized, the plumbing camera went in both ways to 7 feet. In the kitchen, which was solely plastic piping, both units worked.

**Result:** The contractor appreciated the fact that the Miniflex is a compact all-in-one design, and has a sonde built into the small camera head so the technician can locate it behind walls or under the floor. It was also the only unit that worked for the inspection of the older galvanized lines and navigated through bends in them. The company purchased a Miniflex unit. 800-239-9934; [www.fiberscope.net](http://www.fiberscope.net)

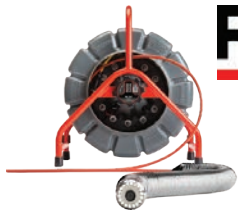
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## Product Spotlight

### High-powered wet/dry vac mounts on construction-grade wheelbarrow

By Craig Mandli

**M**any plumbing and drain cleaning jobs require more power than a shop vac can offer. But the “step up” options for portable vacuum systems capable of maintaining high power while sucking up wet material are limited. Vacuum trucks and trailers provide the power, but not the portability, not to mention the price point to make most plumbers comfortable. Even the biggest, most powerful shop vac has its limitations. The Roll-n-Vac, though, offers the best of both worlds.

The Roll-n-Vac is the industrial extractor for tough jobs, according to its inventor, Ed Calafut. Simply placing the Roll-n-Vac unit on an approved 6-cubic-foot-capacity steel construction-grade wheelbarrow turns it into a commercial-grade wet/dry vac. It was an idea that Calafut initially dreamed up for the swimming pool maintenance industry.

“I knew technicians struggled picking up the wet muck and mud that ends up on the bottom of swimming pools,” he says. “Shop vacs just don’t have the power to handle that. The Roll-n-Vac, though, will suck 20 gallons of sludge up an 8-foot vertical incline in 8 to 9 seconds.”

The Roll-n-Vac provides suction that is so strong that it will implode lesser-quality wheelbarrows. According to Calafut, the lowest cost wheelbarrow that will not implode



is the Jackson M6KBUT12 that can be bought reasonably off the shelf at Home Depot. Generally, these wheelbarrows come with only one wheel, so Calafut also recommends purchasing a two-wheel tire conversion kit available on Amazon.

“I overengineer everything, which included the feedback I gave the company that makes the motor for the Roll-n-Vac,” he says. “Every component is top of the line and maxed out on

power with the goal of providing the most powerful wet/dry vacuum system possible.”

In addition to swimming pool maintenance, the Roll-n-Vac can be used in drain cleaning applications, and the addition of a high-powered pressure washer essentially turns the package into a portable hydrovac. The body of the unit is designed for fast, easy clean up, rinsing off easily. At a total weight of 42 pounds, it is easy for one technician to move. The package includes a 10-foot long 2 1/2-inch-diameter hose, two wands, three tools, a filter, and a 20-foot power cord.

“This is the portable wet vacuum system with the power and portability that contractors want,” says Calafut. **800-356-8059; [www.roll-n-vac.com](http://www.roll-n-vac.com)**

### Quick Fitting CopperHead slip repair couplings



Quick Fitting’s CopperHead slip repair couplings offer a fast and easy way to permanently and reliably fix pipe leaks and breaks. For most repairs, only a single coupling is needed, compared to the two sweat copper fittings that are traditionally used. Suitable for copper, PEX and CPVC tubing, the couplings are more forgiving because the cut distance doesn’t have to be exactly right. The dual-seal design allows for higher pressure ranges and better pressure

performance, and the outer seal protects the inner seal from degradation throughout the lifetime of the connection. **877-238-4826; [www.quickfitting.com](http://www.quickfitting.com)**



### Webstone Pro-Pal dielectric water heater supply valves

Webstone’s Pro-Pal dielectric water heater supply valves simplify the installation and service of any water heater, combining a dielectric union, a ball valve, and a 1/2-inch FIP



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vacuum relief valve port into a single-forged dezincification resistant brass body. For areas where an expansion tank is also required, the dielectric water heater supply valve with expansion tank service is a fully integrated solution. It features an extended arm with a 3/4-inch FIP port and 3/4-inch capped hose drain. Both models are available with or without the vacuum relief valve and a choice of FIP, MIP, sweat, press or push ends to connect to system piping. **800-255-9529; www.webstonevalves.com/pro-pal**



### Viega expands valve lineup

Viega introduced a new line of MegaPressG valves in sizes 1/2 to 2 inches. Like MegaPressG press fittings, the valves are approved for

use in gas and fuel oil applications. The valves are suitable for use with ASTM Schedule 5 to Schedule 40 carbon steel pipe. Viega also launched larger sizes of its MegaPress 3-piece ball valves in the 2 1/2- to 4-inch range. In addition, Pro-Press valves are now available in sizes 2 1/2 to 4 inches for use with copper and stainless CTS pipes. **800-976-9819; www.viega.us**

### Taco Comfort Solutions 00e VR Series ECM circulators

Taco's new VR Series high-efficiency ECM cast iron or stainless steel circulators offer a wide range of low, medium or high head options in sizes from 1/3 to 2 hp. Easy, intuitive settings and operation help for a broad range of uses, including HVAC, hot water recirculation and NSF commercial hot applications. 00e VR circulators provide an easy-to-program pump interface with real-time feedback. Modbus, BACnet, 0-10Vdc + pulse width modulations are standard. The circulators provide 62 feet maximum head and up to 320 gpm flow. **401-942-8000; www.tacomfort.com**



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Visit [www.nationalhardwareshow.com](http://www.nationalhardwareshow.com)

**May 10-11**

**7th Emerging Water Technologies Symposium,**

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**Canadian Mechanical & Plumbing Exposition,**

Metro Toronto Convention Centre, Toronto, Ontario.

Visit [www.ciph.com](http://www.ciph.com)

**June 12-15**

**AWWA Annual Conference & Exposition,**

Henry B. Gonzalez Convention Center, San Antonio.

Visit [events.awwa.org](http://events.awwa.org)

**June 19-21**

**Canadian Institute of Plumbing & Heating Annual Business Conference,**

Jasper Park Lodge, Jasper, Alberta. Visit [www.ciph.com](http://www.ciph.com)

**June 27-29**

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Visit [safety.assp.org](http://safety.assp.org)

**Sept. 11-15**

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Sheraton Charlotte, Charlotte, North Carolina.

Visit [iapmo.org/ibu/events](http://iapmo.org/ibu/events)

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Visit [www.aspe.org](http://www.aspe.org)

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The Westin Charlotte and Charlotte Convention Center, Charlotte, North Carolina.

Visit [www.phccweb.org/connect](http://www.phccweb.org/connect)

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Visit [www.serviceworldexpo.com](http://www.serviceworldexpo.com)

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**World Plumbing Council,**

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**Richard Hart**

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**SJE's Julian Atchia joins Hydraulic Institute board**



SJE's Julian Atchia, vice president of research and development, was selected to serve as a Hydraulic Institute board member. He and two other new members will begin their three-year term at the Hydraulic Institute Annual Conference in Orlando, Florida, in March. Board members are responsible for maintaining the missions, goals and key strategies of the Institute; ensuring adequate financial, staff and volunteer resources; and providing leadership support to key committees to accomplish Institute goals.

**Rheem acquires DEJONG**

Rheem has acquired DEJONG from Nordian Capital. Founded in 1859 and based in Gorredijk, the Netherlands, DEJONG produces hot water tanks for multiple applications including solar, heat pump and boiler configurations. DEJONG will operate as a standalone business unit within Rheem's Global Water Division. Arno La Haye, managing director of DEJONG, will continue in his leadership position. 

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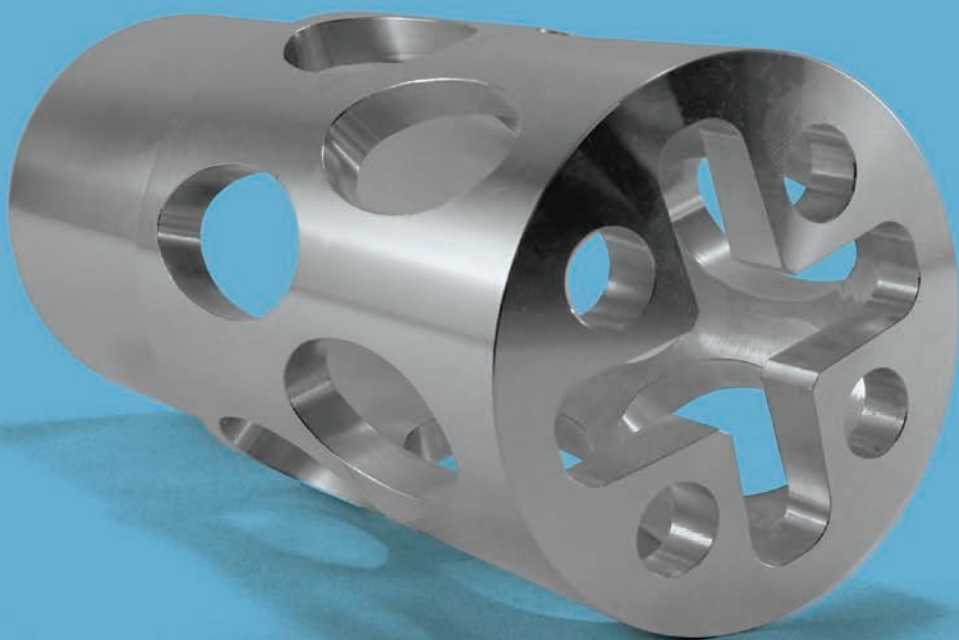
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