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A SPECIALIZED APPROACH TO
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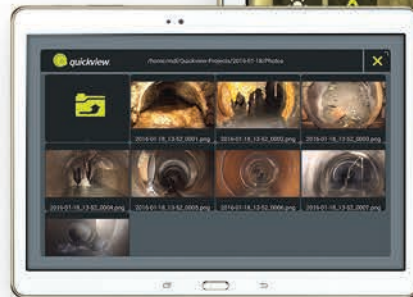
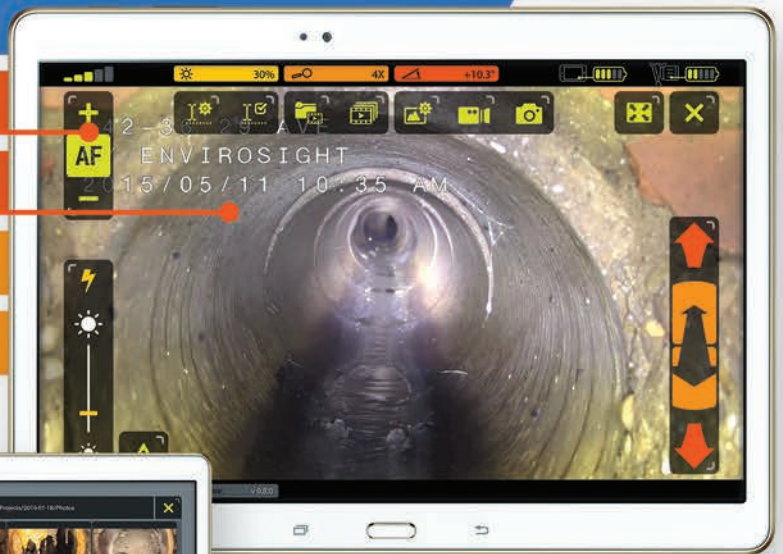
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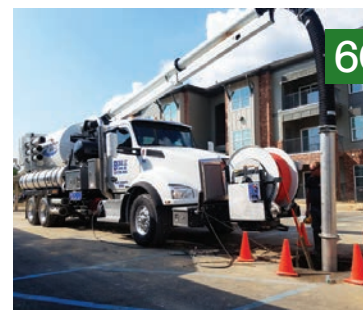
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ISSUE FOCUS:

Business Diversification - Septic Pumping and Plumbing

- **MONEY MACHINES:** Portable vac units improve grease trap service
- **BETTER BUSINESS:** Take advantage of generational strengths
- **MONEY MANAGER:** Year-end tax tips to save you money



ON THE COVER

Mike App is the senior project manager for Precision Trenchless in Schenectady, New York. The company is focused on infrastructure rehabilitation and has distinguished itself by specializing in large-diameter pipe lining. (Photo by John Berry)



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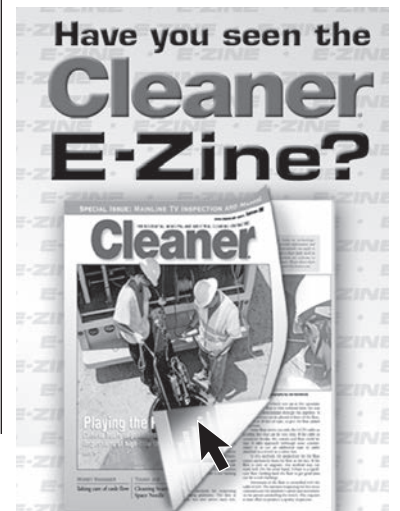
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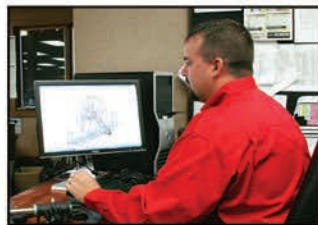
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Luke Laggis
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Make the Most of Your Time

Plans don't matter when new opportunities — and obstacles — present themselves

By Luke Laggis

Time can move painfully slow in specific instances, and the more you focus on the specifics, the more likely you'll be to realize — when you eventually stand back — that months, years, a lifetime has passed.

I sat down to write this column on Monday, Sept. 12, the day after the 15th anniversary of the attacks on the World Trade Center. I remember pieces of that morning so vividly that it's almost impossible to believe how many years have passed in the interim. I was driving down County Highway PD on my way to work at a small newspaper in southern Wisconsin when I heard on the radio that a plane had crashed into the first tower. There was no mention of terrorism.

When I got to work I learned about the second plane. We spent a lot of time in the conference room that day, staring at the TV in disbelief.

That was my first newspaper job. I left there in 2003 to move home and take care of my mom, who'd just been diagnosed with terminal cancer. In the years since, I've run a family business, worked for other newspapers, bought my first and second house, got married, got divorced, and jumped into the water and wastewater industry. So much has happened, none of it planned, but I like where I'm at today.

What do you remember from 15 years ago? Are you in the position now you hoped to be, or did your plans fade as those 15 years wore away? Maybe you wanted to be running 20 trucks by now and you only have eight. Maybe you wanted to be running 10 and you have 20. It's good to plan and have goals, but you can't plan for everything and you never know (my apologies for the cliché) what tomorrow will bring. How you adjust and adapt will ultimately tell the tale of your life and your business.

Andy Prestigiacomio of Rochester, New York-based AP Plumbing had no idea what the future would bring his small plumbing business 15 years ago. But over the last decade, it has expanded into hydroexcavating, pipe lining, sewer cleaning and inspection, and septic and grease tank pumping, which has pushed annual net income to \$6 million. These services weren't in Prestigiacomio's business plan, but he saw the opportunity they presented.

Recognizing opportunity and acting on it is the key to success. You never know which job, customer or service might transform your business, and you never know if another opportunity will come down the road.

Transformative moments are never scripted. If you treat every job like it's the most important, you'll be able to take advantage and reap the rewards when it is. Maybe more importantly, if that big break never comes and you still keep working like it's just around the corner, you'll be respected. You'll be an everyday hero to all the people you've helped. And that's the kind of success that should make you proud 15 years from now.

So embrace each day, and take full advantage of the opportunity it presents. You never know where it might lead.

Enjoy this month's issue. **c**

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SOUTH OF THE BORDER Mexico City Embraces Trenchless Technology

The U.S. and Canada have used trenchless technologies like CIPP for years to rehab deteriorating pipe, but such methods are still in their infancy in some areas like Mexico. In 2014, CIPP was successfully used to rehab a 2,600-foot section of pipe in one of the most congested areas of Mexico City.

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NO DOUBT

Canadian Contractor Provides Customers Visual Proof of Sewer Problems

It's only natural for homeowners to question whether or not their sewer lateral truly needs an expensive repair or a thorough cleaning, especially if they've been burned before by unscrupulous contractors. But Steve Stefanidis, co-owner of The Liner Guys in London, Ontario, has a tool that removes all doubt in customers' minds: a SeeSnake inspection camera from RIDGID.

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OVERHEARD ONLINE

“If the complainer responds to your offer to make it right by going on a tirade about it being too late now, and how you're the worst company in the world and you probably kick puppies and pull the wings off butterflies in your spare time — just let it go.”

— 10 Tips for Dealing With Negative Online Reviews >>cleaner.com/featured

UNSUNG HEROES

Where Would We Be Without Drain Cleaners?

Jennifer Shoemaker of Spartan Tool has seen a lot during her travels to third-world countries. One of her biggest takeaways? The value of a clean dish. Something as simple as turning on the faucet, scrubbing pots and pans, and washing the soapsuds down the drain is a luxury in areas that don't have reliable drainage systems and fresh flowing water. Shoemaker puts things in perspective. >>cleaner.com/featured

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COVER STORY



ALL UNDER **ONE** UMBRELLA

BY KEN WYSOCKY | PHOTOGRAPHY BY JOHN BERRY

<< Senior Project Manager Mike App (front, far left) and the Precision Trenchless team are focused on infrastructure rehabilitation, with a specialization in large-diameter pipe lining.

NEW YORK COMPANY INVESTS IN NEW TECHNOLOGY AND BRINGS A SPECIALIZED APPROACH TO INFRASTRUCTURE REHABILITATION

Precision Trenchless has risen to the top by embracing challenges and investing in cutting-edge technology to successfully meet those challenges.

Being in the right place at the right time doesn't hurt either, says Mike App, senior project manager at Precision Trenchless, based in Schenectady, New York: "Timing is everything — no doubt about that."

Specifically, there were two main factors that spurred the company's growth: UV-cured lining technology, and the company's decision to focus on rehabbing large-diameter pipes (24 to 63 inches in diameter) — an underserved market many contractors avoided.

"If things go bad on a large-diameter pipe project, they go bad faster and it becomes very expensive to fix," App explains. "So the bigger you go (in pipe diameter), the less competition there is. There are very few other companies nationwide that do large-diameter pipe rehab because it's such a high-risk, high-reward proposition."

At first the UV-cured technology was a tough sell, because most potential customers were only familiar with felt-liner applications. "It took a long time to get any momentum going," App notes. "But once we got those first couple of jobs under our belts, we could refer those customers to prospective customers. That's how we started gaining momentum."

SUCCESS WITH UV

About five years ago, a large client asked Precision's sister company, Precision Industrial Maintenance (PIM), for help in resolving an ongoing problem with thousands of feet of storm sewer lines the client owned. At the time, PIM had been cleaning and inspecting sewer lines for two decades.

The sewer lines had been periodically rehabbed with traditional, steam-cured felt liners that never cured correctly and kept coming apart whenever the lines were jetted. But as luck would have it, Todd Kilburn, Precision's owner and founder, was looking into CIPP lining technology and had an answer to the client's request for a better way to seal the lines: a fiberglass lining system made by Germany-based SAERTEX-multiCom that uses UV light for curing.

Long story short, Precision successfully installed the SAERTEX lining system, which proved to be a reliable technology. So by trying to better serve a client, Precision Trenchless was born into Precision Group, which also comprises PIM and Precision Environmental Services.

"Todd is an entrepreneur. He researches new ideas and has the uncanny ability to look down the road eight or 10 years and spot emerging trends," App says. "And now, with all the aging infrastructure needs, pipe lining has become a burgeoning industry and we already were well positioned to become a leading service provider."



Precision Trenchless UV operator Mark Witthohn reaches for the UV light train control panel to power down the unit after curing a fresh liner in a 10-inch-diameter sewer line. Field supervisor Tim Nappi (center) and cutting camera supervisor Robert Chrysler were also working on the project.

profile

PRECISION TRENCHLESS LLC

SCHENECTADY, NEW YORK

FOUNDED: 1994

OWNER: Todd Kilburn

EMPLOYEES: 51

SPECIALTIES: Pipe rehabilitation

SERVICE AREA: New England

WEBSITE: www.precisiontrenchless.com



After that initial UV lining job, Precision Trenchless used the old-fashioned shoe-leather approach to gaining market share, explaining the benefits of the technology to municipal engineers. As such, the company often took on tough jobs that other contractors had repeatedly passed on because of their complexity — and inherent risk of failure. "We'd say, 'We can do this,' then went out and did it," App says. "And that's how we started building a client base — and a good reputation."



<< LEFT: Rick Ray, wearing Tyvek protective gear, makes his way out of a manhole after completing work on a section of 10-inch-diameter sewer line that Precision Trenchless lined for the city of Syracuse, New York.

>> RIGHT: UV operations supervisors Rich Robinson (sitting) and Frank Blond work inside the UV curing rig reviewing video taken during the installation of a UV-cured liner.

“WE INTENTIONALLY WENT MOSTLY WITH GUYS WHO HAD NO EXPERIENCE. WE DIDN’T WANT THEM TO HAVE ANY EXPECTATIONS, PRECONCEIVED NOTIONS OR BAD HABITS. IT’S HARD TO TAKE A FELT CREW AND TEACH THEM TO DO UV-CURED WORK.”

Mike App

TARGETING TOUGH JOBS

A good example of the challenging jobs Precision Trenchless hones in on occurred in 2014 in Kingston, New York. After heavy spring rains produced a sinkhole in a city street, large volumes of silty sediment began rushing into a 24-inch-diameter, vitreous-clay sanitary sewer known as the Tannery Brook Tunnel, which lays about 90 feet underground. The silt infiltrations were causing problems at the city’s wastewater treatment plant.

About 190 feet of the sewer line was affected by the sinkhole, but enough pipe remained to rehabilitate it. Inside the line, the temperature was a cool and constant 53 degrees, and it was constantly wet because of multiple 60 gpm leaks. The situation called for a quick-curing liner, and the SAERTEX system fit the bill, App says.

Workers gained access to the sewer line via a 90-foot-deep shaft. The work also required a 4-inch-diameter bypass system, capable of handling 900,000 gpd. Despite the difficult work conditions, which included more heavy rains, Precision Trenchless workers finished the job in 2 1/2 weeks, with no further infiltration to date.

DIFFERENT HIRING APPROACH

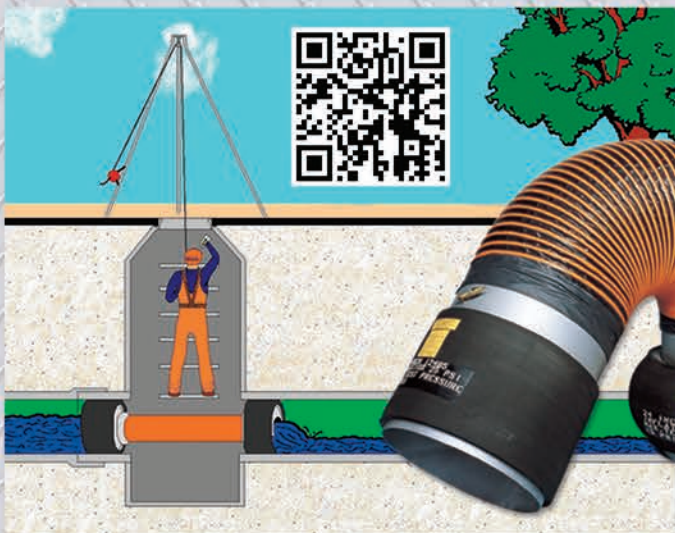
App took a simple and unorthodox approach to hiring his pipe lining team: No experience required.

“Only two of the guys we hired had ever installed liners before,” he says. “We intentionally went mostly with guys who had no experience. We didn’t want them to have any expectations, preconceived notions or bad habits. It’s

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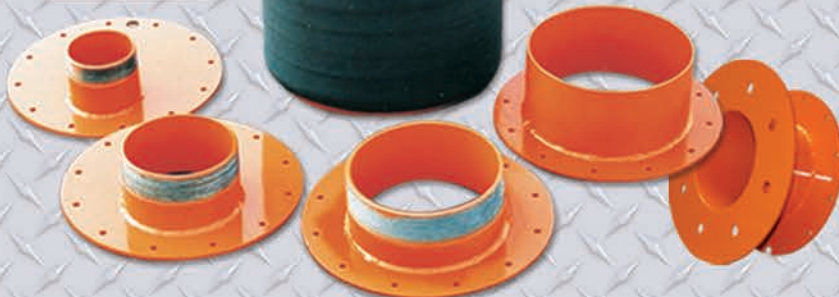
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SHAPE-SHIFTING SEWER LINE POSES MULTIPLE CHALLENGES

A unique attitude toward tough jobs prevails at Precision Trenchless in Schenectady, New York: Bring 'em on. But the company almost met its match when it won a contract to line a leaking, 140-foot-long section of combined storm and sanitary sewer in Boston's historic Beacon Hill neighborhood in April 2016.

While 140 feet of sewer may not seem like a big deal, the job posed plenty of challenges. First of all, it was constructed more than 100 years ago and now runs under a narrow, 9-foot-wide road. Secondly, the brick sewer line's shape changed every 25 feet or so; some sections were circular, some were elliptical and yet others featured a flat slate ceiling.

Even worse, the lateral lines from the brownstone townhouses that line both sides of the street connected to the bottom of the sewer line. "It got to the point where every time it rained, the houses would flood," explains Mike App, senior project manager for Precision Trenchless. "When the storm sewer backed up with water, it would go down the laterals and flood the basements." So in addition to lining the pipe, another contractor was changing the lateral connection points to the top of the sewer line.

Precision Trenchless gained access to the line via three manholes — one at each end of the affected stretches of pipe and one in the middle — plus two additional excavation pits that helped segregate the different-shaped sewer sections to some degree.

It was tricky getting the fiberglass SAERTEX liner to accommodate the different sewer sizes, but nylon safety caps installed at each transition point helped the liner conform to the various host pipe shapes with diameters ranging from 13 to 18 inches, App says. The end result: The project was completed in three days, on time and on budget.



ABOVE: UV operator Mark Withohn removes the UV light train after completing work on a section of sewer trunk line.

BELOW: Looking into the manhole, the end cap where air is inserted into the liner is visible. The UV light train cures the liner as it moves through.



hard to take a felt crew and teach them to do UV-cured work. In fact, it's unusual to find a lining company that does felt and also does UV. They're just different enough in terms of the process and installation that if you don't do UV work day in and day out, it's difficult to do."

To attract and retain quality employees, Precision Trenchless offers competitive pay and benefits. But it also offers employees intangibles like upward mobility within the company and an

open door to share ideas and opinions. "The biggest thing Todd and I do differently is give every employee a voice," App explains. "I trust them and listen to them. We believe in developing and improving our field technicians, leads and supervisors, and letting them follow their passions within the company.

"I can honestly say that out of all the employees I've hired, only one has left the company — and that was for family reasons," he continues. "We thank them all the time and treat them well because we live on the road a lot. We offer flexible work schedules so they can get back home for, say, a child's recital or sports event. We feel that as their employer, it's our responsibility to minimize the chances that they miss those kinds of things."

Precision Trenchless provides in-house training, but App notes that the in-the-field experience is equally as valuable as the technical education employees receive. "Anyone can learn to do pipe lining, but we really distinguish ourselves from the rest when things go wrong," he says. "What sets us apart is how we work out of jams to make sure every client is satisfied.

"That inventiveness where employees can think on the fly and solve problems only comes from experience," he adds. "All pipe liners have basically the same equipment, but it's what you're willing to do with it — what your employees can do — that makes a big difference."

CONTINUED >>

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LARGE EQUIPMENT FLEET

The company believes that investing in new, reliable equipment helps to attract and retain employees. To that end, and to better serve customers, Precision Group owns two Vac-Con jet/vac trucks built on International 7600 chassis with 1,500-gallon debris tanks and 1,000-gallon water tanks, two jet/vac trucks built by Vactor Manufacturing on Kenworth T80 chassis with 1,500-gallon debris tanks and 1,000-gallon water tanks, and a Guzzler vac truck built on an International 2674 chassis.

“THE BIGGEST THING TODD AND I DO DIFFERENTLY IS GIVE EVERY EMPLOYEE A VOICE. I TRUST THEM AND LISTEN TO THEM.”

Mike App

The fleet also includes an International 4700 box van for carrying lining gear, a wet/dry vacuum truck built on an International 5500 chassis, a Caterpillar backhoe, a trailer-mounted John Bean Jetters water jetter, and two Mercedes-Benz 3500 Sprinter inspection vans equipped with Aries wheeled Pathfinder cameras.

“When needed, we share equipment and personnel between Precision Group companies,” App says, noting the advantages of having a diversified, full-service group of service providers. “The synergies between our companies provide a big advantage because it’s more convenient and cheaper for customers to work with just one contractor.”

The bulk of Precision Trenchless’ work currently comes from lining sewer trunk lines and culverts that run under highways and roads; the rest comes through contracts with various states’ transportation departments. But the company isn’t a two-trick pony: It is also expanding into other pipe lining applications. For example, this year a Precision crew will finish lining an 11 1/2-mile-long pipeline that delivers water from a reservoir to residents in the city of Boulder, Colorado.

FURTHER GROWTH ANTICIPATED

Looking ahead, App is confident that Precision Trenchless will continue to grow, for several reasons. First, he predicts infrastructure deterioration will worsen and become a more visible problem, which should encourage more funding to resolve the problem. “The Flint situation (lead-contaminated water pipes) has put the country’s underground infrastructure under a microscope,” he points out. “People need to have safe drinking water and trust in their roads and other basic services.”

Moreover, App believes in Kilburn’s entrepreneurial spirit, which keeps employees motivated. “We plan to expand our geographic footprint,” he says. “Our goal is to double our size (in terms of gross revenue) during the next five years and become the single largest UV-liner installer in the United States.”

There’s also another factor at work that’s less tangible but equally important: employees’ zeal to tackle challenging jobs and their passion for excellence.

“We’ll do anything to get a job done,” App says. “We feel privileged to do this — honest to God, we do. I love every day we come to work.” **C**

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Laborer Jon Schuyler (left) and UV operations supervisor Rich Robinson load a roll of glide foil onto a truck for transport to the job site. Glide foil is used as a clean surface for the liner to slide over while being positioned before curing.



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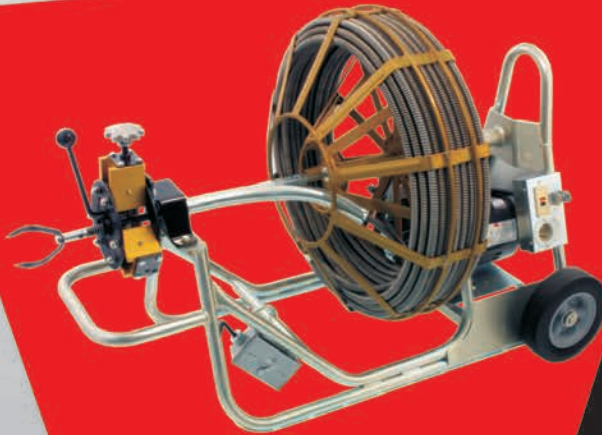
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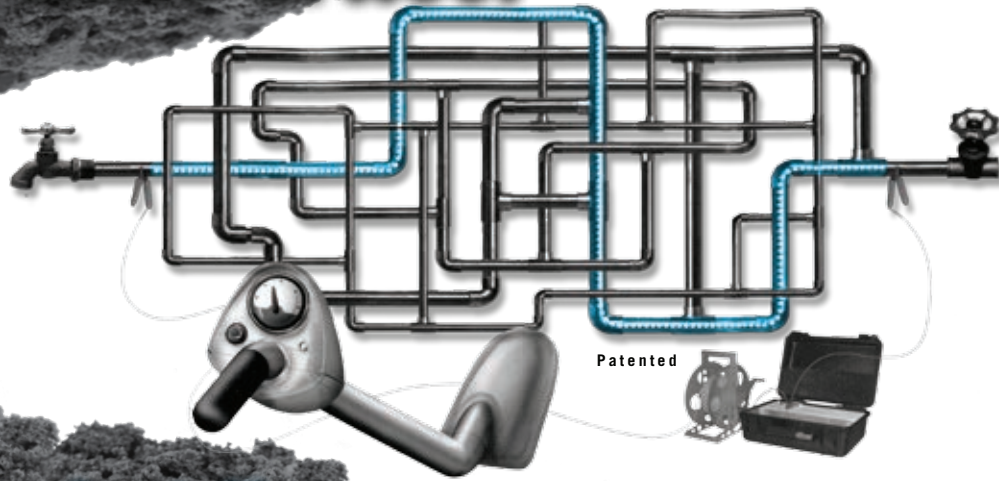
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Erik Gunn is a magazine writer and editor in Racine, Wisconsin.

Make Your Credit Work for You

Follow these helpful tips to establish a line of credit for your business before you need it

By Erik Gunn

You have good cash flow, minimal debt and no upcoming major purchases in the works.

But you know just how unpredictable the future can be. “Chance favors the prepared,” the old saying goes, but how do you realistically prepare for every eventuality? You can’t, of course. But anything you can do to provide more flexibility when fortune changes, for better or worse, can put you on the right side of those wise words.

One way to prepare is to establish a line of credit even when you don’t need it. Strengthening your position now to borrow in the future can pay off handsomely. And along the way, it lets you forge a stronger relationship with your bank.

WHY NOW?

Mills Snell owns Pendleton Street Advisors in Columbia, South Carolina, a business financial planner. He says setting up a line of credit when you don’t need it helps in three ways: timing, sentiment, cash flow.

“By financing the purchase with a line of credit, you allow the investment to begin paying for itself before you have to part with your hard-earned cash.”

Mills Snell

Timing. Getting a line of credit takes several weeks if not longer, Snell points out — even if you have already organized all the information your banker needs. When opportunity knocks, why risk losing out to a better-prepared rival ready to open the door immediately?

Sentiment. If the emergency that sends you to the bank puts your company in a fiscal bind, “lenders will either avoid perceived risks or make the borrower pay more in order to make it worth their exposure,” he notes. A credit line already in place helps avoid that.

Cash flow. Even present-day good times and a healthy savings account might not insulate you from future business ups and downs. “The ability to be flexible and tap into a line of credit could be a make-or-break moment for a business owner,” Snell says.

“Cash flow is different than cash,” he continues. It can be shortsighted to evaluate a decision simply by looking at whether you have enough money now.

Suppose you see an opportunity to add another service truck and hire two more people. You crunch the numbers and find that it will take two years to break even on the added cost — but once you get there, your profits can take off.

Still, short-term strains on your immediate savings and on your cash flow could reasonably scare you off. A credit line gives you freedom to look at the idea’s long-term sustainability, Snell explains: “It also creates a margin of safety where things have time to play themselves out rather than something having to work out perfectly right away.”

BE PREPARED

OK, so you’re sold on the concept. Now what? Analyst Ian Atkins, at Fit Small Business (FitSmallBusiness.com), offers this prescription:

- Always have an accurate, current profit-and-loss statement and balance sheet.
- Always have an accurate, current personal asset/liability list.
- Keep your personal and business credit scores as high as possible.
- Make sure taxes are filed on time, with no tax debts.

“Small-business owners should also ask themselves on a regular basis, ‘Will I need financing six months from now?’” Atkins counsels.

“Getting the best terms on financing means impressing your lender. If there are any blemishes on your credit, you have time to improve them. If your books are disorderly, you have time to straighten things up. It’s all about accurately presenting yourself in the best possible light.”

It gives a whole new twist on the adage *time is money*: “If you don’t give yourself plenty of time to get spruced up, you can’t address issues before working with a lender,” Atkins explains, because suddenly, you’re looking like a riskier borrower. That could cost you in a smaller line, shorter payback terms or higher fees.

Once you have the credit line in place, Snell suggests that before drawing on it you ask yourself, “Is this an expense for consumption or investment?”

You might need to tap the line once in a while to make payroll or buy supplies in tight times — “but you will certainly get in trouble if you make it a habit.”

Instead, Snell suggests, use your credit line to build long-term income. “Buying a new piece of equipment could expand your business’ service offerings and generate revenue that you would not have access to otherwise,” he says. “By financing the purchase with a line of credit, you allow the investment to begin paying for itself before you have to part with your hard-earned cash.”

TRADITIONAL VS. GUIDANCE

There’s more than one approach, however. Dominic Karaba, executive vice president for business banking with UMB Bank, points out that some businesses routinely use a traditional credit line to cover “working capital needs like paying salaries or expenses while you are waiting for receivables to be paid or collected.”

For bigger capital expenses, though, Karaba suggests a different animal: a “guidance line of credit.”

A guidance line is “primarily for equipment needs this year, but the needs might not be known yet,” he explains. You don’t actually draw on it until you give the bank an invoice for the new equipment. At that point, the borrowed amount is converted into a term loan, typically with a three- to five-year payback schedule.

For a guidance line, your banker will want a clear picture of your expected needs for capital expenditures and equipment in the coming year. (Of course, you also need the other usual documents — tax returns, balance sheets, P & Ls and so on.)

Banks apply different standards to guidance lines and conventional credit lines, Karaba notes. The traditional line will rise and fall over the annual expense and revenue collection cycle, and it typically must have a yearly “resting period” when the line has a zero balance owed.

What you don’t want to do, cautions Snell, is treat it as an infinite safety net. Better to suffer the short-term pain of watching cash go out the door than the long-term disaster of your balance owed creeping up month after month with no end in sight.

Meanwhile, the guidance line is specifically designed for major expenses, as is the term loan that takes its place once the purchase is made.

“Always think about how long it will take to pay off the loan through operating profits,” says Karaba. “If you can pay it off in less than a year, then a line of credit could be OK. If it will take more than a year to fully repay the amount borrowed, then a term loan or a guidance line with a term-out feature is more appropriate.”

AVOID SURPRISES

Setting up a line of credit also means a closer relationship with your bank — and that demands better communication. That will help when things get sticky. Atkins, of Fit Small Business, notes that a bank line of credit “can be slowed or reduced at the lender’s discretion.” Keeping in touch — and alerting your bankers to sudden changes, like a ding on your credit report or a shift in your normal borrowing pattern — means they won’t be caught off guard, he adds. “Lenders hate surprises.”

UMB’s Karaba agrees. Meet every three months or even every month with your banker “to talk about needs and plans for the next six to 12 months,” Karaba says. “The business owner should not wait until the last minute to tell the banker any new business needs. Instead, be open and honest with your banker so you both can plan.”

A strong banker relationship is good in every respect, and failing to forge one is “the first mistake,” he adds. Don’t hold back information about how you’re doing or your potential future needs. “Being proactive makes the entire business a lot easier.” **C**



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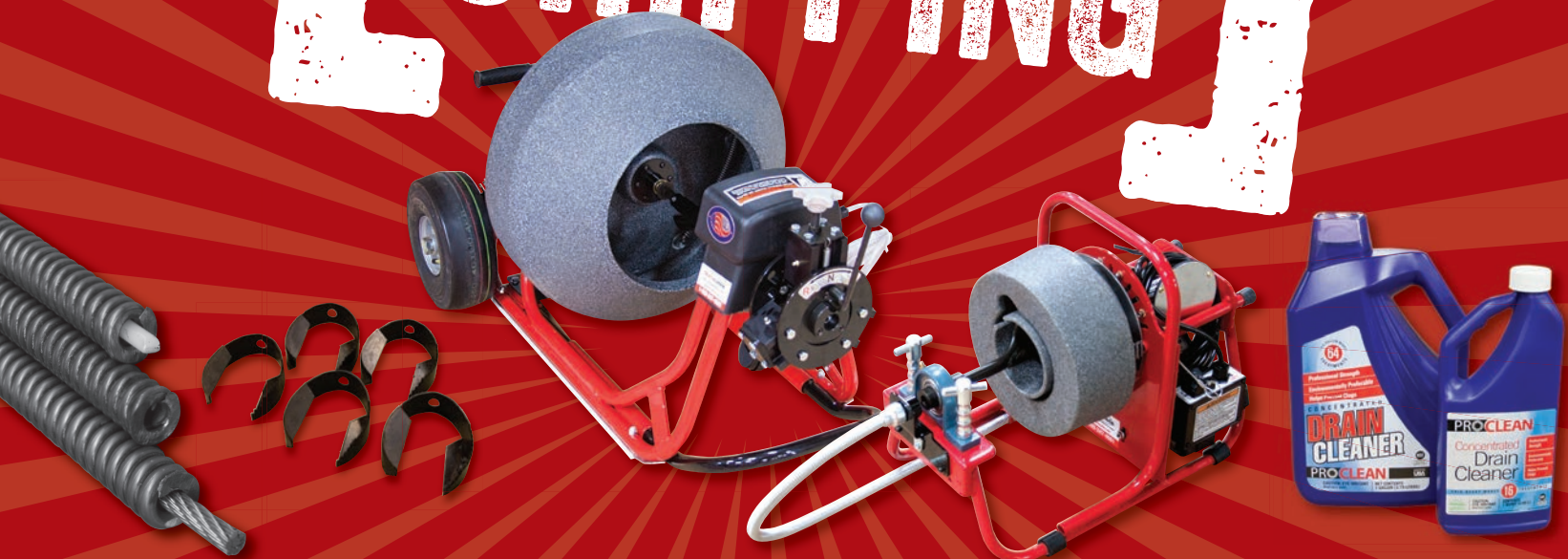
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EXPANDING Into Success

NEW YORK PLUMBING COMPANY DIVERSIFIES BY INVESTING IN STATE-OF-THE-ART TECHNOLOGY TO TAP INTO UNDERSERVED MARKETS



Commercial technician Cain Catino (left) and industrial technician Charles Castrechino of AP Plumbing lift the lid on a drainline outside an industrial facility in Rochester, New York.

Andy Prestigiacomio is a believer of taking risks, of seizing opportunity when it presents itself.

Look no further than the successful growth and diversification of his 30-year-old company, AP Plumbing, for testimony to that: Over the last decade, it has expanded into hydroexcavating, pipe lining, sewer cleaning and inspection, and septic and grease tank pumping, which has pushed annual net income to \$6 million.

“I’d love to tell you how brilliant I was, but I didn’t have any set goals 30 years ago,” Prestigiacomio says. “I was too busy working.”

Prestigiacomio steered his Rochester, New York-based company in this starkly different direction after recognizing the area’s aging infrastructure as a golden opportunity to add lucrative services. This expansion into sewer cleaning and pipe lining stands as a good example of AP Plumbing’s high-risk, high-reward strategy — and its success boldly underscores the importance of taking calculated financial risks to enter underserved markets.

“As crazy as it sounds, we kind of put the cart before the horse,” he explains. “We took an ‘if you build it, they will come’ approach and started to invest in specialized equipment. We wanted to offer more than just the typical service provided in the Rochester area.”

Though it’s what propelled the company forward, investing in expensive equipment such as vacuum trucks, water jettors and a hydroexcavating truck was unnerving at times. But as Prestigiacomio notes, it takes money to make money. “I always felt that there was no better way to invest in our company and our employees than by investing in new technology.”

EDUCATING AND ESTABLISHING EXPERTISE

Being the first company in the region to buy equipment such as vacuum and hydroexcavating trucks and pipe lining technology gave AP Plumbing significant competitive advantages: establishing expertise in unconventional technologies, and developing key business relationships, Prestigiacomio says.

“Our first Vactor truck brought us into the spotlight and helped us gain many new contracts with municipalities and utility contractors,” he notes.

Charles Castrechino positions a vacuum boom in the clean-out for an industrial drainline while Cain Catino stands back at the controls on the Vactor 2100 jet/vac truck.





Charles Castrechino (left) and Cain Catino clean a sewer line in a residential alleyway.

SHORT WORK OF A TOUGH JOB

In 2012, AP Plumbing in Rochester, New York, faced a particularly difficult job: hydroexcavating a tunnel 160 feet below a local electric utility substation, near high-voltage equipment. The company was contracted to create a roughly 3-foot-square, 160-foot-long trench for a new run of conduit that would carry a new electrical line upgrade for the substation.

The on-site challenges were daunting: The substation could not be shut down because it provides power to sections of Rochester, and the company's Vactor 2112 hydroexcavator had to be positioned at least 25 feet from any substation component. The hydroexcavator also had to be grounded to protect operators from electrocution. Adding to the job site's complexities, the soil was a mix of clay, rock, dirt and other assorted fill debris, says Andy Prestigiaco, the company's founder and owner.

Proper planning between the utility contractor and Don Dugan,

industrial supervisor for AP Plumbing, was critical to the project's success. The company also relied on expertise provided by Joe Johnson Equipment, a local equipment sales and rental outfit that sells and services Vactor equipment.

"They helped us devise a plan to facilitate this job and meet all the criteria," Dugan says. "We had to determine the work parameters, including site-specific training, how to safely determine (hydroexcavating) access points, where to place the hydroexcavator and how to ground it. In addition, we had to utilize plastic piping instead of metal piping because of the very real possibility of electrocution."

To dig the trench, workers used 6-inch-diameter SDR piping that enabled remote excavation and water pressure of 1,600 psi and flow of 8 gpm for hydroexcavating. This high-pressure/low-water flow combination was required to prohibit excess water from entering electrical systems, causing damage or injury. The job took two days to complete, Dugan says.

"In the end, the customer was very pleased with the work and the outcome," Prestigiaco says. "It showcased our capabilities for facilitating difficult projects, and we've been called upon to use these skills on similar applications."

AP PLUMBING

ROCHESTER, NEW YORK

FOUNDED: 1986

OWNER: Andy Prestigiacom

EMPLOYEES: 45

SPECIALTIES: Industrial/municipal cleaning, and residential and commercial plumbing services

SERVICE AREA: Rochester area

WEBSITE: www.applumbing.com



About three years later, the company bought a Vactor 2112 vacuum/hydroexcavating truck, a purchase that coincided with burgeoning industrywide demands for a safer way to expose utility lines than traditional excavation methods.

But being the first company in the region with such cutting-edge technology also meant customer education played a critical role. AP Plumbing used the internet, sales calls, and radio and television ads to educate customers. The company also leveraged one of its most valuable resources: an extensive customer base cultivated over the 30 years serving the Rochester area. In addition, Prestigiacom took on a business partner, Alex Brocutto, who helped build a management team that would help the company grow more strategically.

“WE TOOK AN ‘IF YOU BUILD IT, THEY WILL COME’ APPROACH AND STARTED TO INVEST IN SPECIALIZED EQUIPMENT. WE WANTED TO OFFER MORE THAN JUST THE TYPICAL SERVICE PROVIDED IN THE ROCHESTER AREA.”

Andy Prestigiacom

AP Plumbing’s education outreach includes highlighting the value of preventive maintenance contracts, which not only builds customer loyalty by decreasing expensive emergency calls, it also secures consistent, recurring revenue. Moreover, the contracts make it easier to schedule work, rather than relying on the unpredictable demands of emergency service work, Prestigiacom explains.

“We tell our customers it’s like going to a doctor for regular checkups so you don’t have a catastrophic problem down the road,” he says. “It’s much better to monitor and maintain lines because it helps our customers save money over time, which strengthens their belief in our company and its representatives. That’s what keeps our business model strong.”

HIGH-QUALITY EQUIPMENT AND EMPLOYEES

Along with the 2008 Vactor 2112 vacuum/hydroexcavating truck, which is mounted on a

Sterling chassis and features a 1,500-gallon water tank, a 15-cubic-yard debris tank and a 6,000 cfm dual-stage fan, AP Plumbing’s fleet includes:

- Vactor 2100 Plus combination sewer vacuum truck, featuring a 2011 International chassis, a 1,500-gallon water tank, and a water pump that generates flow of 80 gpm and pressure of 2,500 psi
- US Jetting trailer-mounted water jetter (18 gpm at 4,000 psi)
- Spartan Tool trailer jetter (18 gpm at 4,000 psi)
- Amthor International vacuum truck mounted on a 2013 International 7500 truck chassis, featuring a 3,600-gallon aluminum tank and a vacuum pump made by National Vacuum Equipment

In addition, the company relies on a 52-gallon ProVac pumpout system made by Westmoor Ltd., used for cleaning grease traps; a sewer inspection truck featuring Envirosight camera equipment; a MaxLiner CIPP lining

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The AP Plumbing team includes (from left) industrial service manager Don Dugan, office manager Stephanie Corcoran, general manager Lynette Raimondi, commercial service manager Frank Marino and residential service manager Cy Jensen.

system; assorted RIDGID pipeline inspection cameras and hand-held drain cleaners; and sewer cleaning machines made by RIDGID. The company also owns about 20 service vehicles, a Ford dump truck and a Bobcat 35 Series compact excavator.

“BEING A FULL-SERVICE COMPANY THAT RUNS 24/7, EMPLOYEE STRESS CAN BE A PROBLEM. BUT IT’S EASY TO CROSS-TRAIN OUR GUYS IN DIFFERENT AREAS ... AND I FEEL THAT THIS INTERMINGLING, IF YOU WILL, HELPS US KEEP OUR EMPLOYEES FROM BURNING OUT.”

Andy Prestigiacomio

Finding employees who are skilled enough to operate equipment has become more difficult in the last 10 years or so. To attract and retain quality employees, Prestigiacomio says the company offers signing bonuses for new employees, as well as for any current employee who refers someone that gets hired. “To me this is key,” he says. “Rewarding our existing employees for helping us grow the business will continue to strengthen our team and allow for continual company growth.”

To develop an employee pipeline of sorts, the company gives presentations at local trade-focused programs and hires interns, some of whom continue on as full-time employees. And cross-training employees in the company’s three major divisions — residential plumbing, commercial plumbing

and industrial/municipal cleaning — plays an essential role in maintaining a positive, fresh work environment.

AP plumbing’s entry into the sewer cleaning market decades ago spurred the company’s growth and laid the groundwork for continued service diversification.

and industrial/municipal cleaning — plays an essential role in maintaining a positive, fresh work environment.

“Being a full-service company that runs 24/7, employee stress can be a problem,” Prestigiacomio notes. “But it’s easy to cross-train our guys in different areas of plumbing and industrial applications, and I feel that this intermingling, if you will, helps us keep our employees from burning out.”

Prestigiacomio says listening to employees and taking their suggestions to heart also serve as great retention tools. “Our team has grown to 37 members over the years, and I cannot tell you how many times their opinions or ideas have steered this ship in the right direction,” he says.

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Cain Catino keeps his hand on the controls of a Vactor 2100 while cleaning a sewer line with Charles Castrechino.

OPTIMISTIC OUTLOOK

In the next three to five years, Prestigiaco expects to maintain the company's consistent double-digit annual growth, and he plans to place even more emphasis on customer and employee relations. As he puts it, "Growth will happen for our company ... but I want to focus more on how AP Plumbing and my employees get there. The engagement of our staff is vital to our current growth and gaining market share."

Looking back, Prestigiaco says he's amazed at how AP Plumbing grew into such a large, diversified company. But he gives total credit to his employees and his management team: Lynette Raimondi, general manager; Stephanie Corcoran, office manager; Don Dugan, industrial supervisor; Cy Jensen, service manager; and Frank Marino, commercial manager.

"We wouldn't be where we are today without all our employees that contribute on a daily basis. They truly are a driving force in our success." **C**



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Stop Wasting Time at Work

If your days are disappearing, start tracking your tasks and become a better time manager

By Judy Kneiszel

When you greet a child by asking what he or she did in school that day, often the response is, “Nothing.” Sometimes it’s also easy to feel that way 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, inspection camera or personal computer. 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 your restroom inventory or calling on potential special events customers personally.

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. Your equipment suppliers might not be available before 8 a.m., but the superintendent of the local utility you service might have more time for you in the early morning.

SCHEDULE COMMUNICATIONS TIME

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, tech-savvy employees could be a quick study with the routing software and actually do a better job than you do after a few short lessons.

PRODUCTIVE MEETINGS

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 any time 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. **C**



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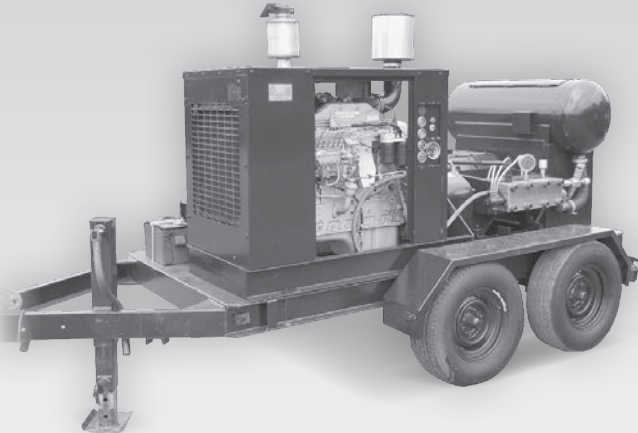
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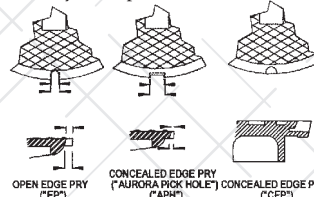
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Two Tools in One

Multifunction WGR Switcher nozzle improves sewer cleaning efficiency

By Luke LeNoble

There have been many innovations in sewer cleaning technology over the years. Most have been designed to save contractors time and money. But with a growing emphasis on “going green,” it’s become increasingly important that new technology is also environmentally friendly.

The WGR Switcher from StoneAge, on display at the 2016 Water & Wastewater Equipment, Treatment & Transport Show in Indianapolis, gives users the ability to run a single sewer jetting tool in either pulling or cleaning mode without removing the nozzle from the pipe. This saves water while increasing operator productivity by eliminating the need to swap nozzles mid-job.

“The way the tool is designed, you can do many applications,” says Frank Ligori, Warthog dealer manager for StoneAge. “You can switch the tool over to impact the wall harder, which removes more scale, roots, debris, grease — whatever it may be. You can also switch back to flush it back to the manhole, which allows the combo trucks to vacuum it out or transport it down the line farther to the treatment plant.

“It’s a new technique. It’s new technology to the industry, and I think it’s a game-changer. We’re very lucky to have this tool,” he says.

Whenever the jetter’s pump is idled down and brought back to pressure, the tool will switch the flow between two different sets of jets. The pulling/flushing jet pattern directs maximum power to the rear jets in order to pull the tool quickly to problem areas or flush debris backwards out of the pipe. The cleaning/descaling jet pattern directs power out the side jets to clean deposits or cut roots, for example.

“A lot of customers are getting really good results when they’re running it in conjunction with a camera truck,” says product engineer Colton Andersen. “They can follow it down the line; they can keep it in that flushing mode until they hit a spot where there is mineral deposits or roots, and then they can switch it and really work that section, then switch it back and flush all that stuff back down the line.

“A lot of people run either a descaling head or a pulling head, so they’re having to pull that out and either put a whole new tool on or put a duplicate head on their tool to run down and get a different cleaning aspect in the pipe,” Andersen says.



StoneAge product engineer Colton Andersen (left) discusses the WGR Switcher with an attendee at the 2016 WWETT Show. The tool saves time by giving users the ability to run a single sewer-jetting tool in either pulling or cleaning mode without removing the nozzle from the pipe. (Photo by Luke LeNoble)

The WGR Switcher navigates pipes 8 to 36 inches in diameter and handles pressures up to 5,000 psi at up to 100 gpm. It is available in both 1- and 1 1/4-inch inlet options.

WWETT Show attendees got a chance to see the tool in person on the showroom floor, ask questions and speak directly with folks like Anderson, who were tasked with designing the product and improving on the technology.

“Our booth flow and our booth traffic was great,” Ligori says. “We got some good leads on our side, but more importantly — at the end of the day — this is more to focus on the industry and where the industry is going. Our customers are the municipalities, the contractors — so it’s very important for us to be here.

“We’re trying to advance the industry — how to do more work with less water and be more efficient.” 866/795-1586; www.stoneagetools.com. **c**

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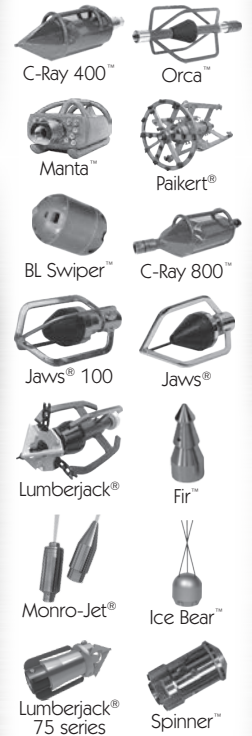


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SEWER NOZZLE

COMPANY DIRECTORY 2016

| COMPANY | NAME OF NOZZLE | APPLICATION | PIPE DIAMETER | FLOW RATE (GPM) | MAX OPERATING PRESSURE (PSI) | WEIGHT | # OF AVAIL FRONT JETS | # OF AVAIL REAR JETS | HOSE SIZE/ CONNECTING THREAD |
|--|---|---|---------------|-----------------|------------------------------|-------------------|-----------------------|----------------------|----------------------------------|
| Advanced Infrastructure Technologies 3055 Kashiwa St., Torrance, CA 90505 800-992-0222 • 310-534-4000 (f) 310-534-4020 www.advancedworld.com sales@advancedworld.com SEE AD ON PAGE 12 | Radial - Standard Cleaning | Small line cleaning, powerful lateral cleaner | 2" - 6" | 7 to 20 | 1,500 - 4,000 | 4 oz. | 1 | 6 | 1/2" |
| | Grenade | Stable cleaner for sewer mains with debris, aggressive thrust action | 6" - 24" | 50 to 100 | 1,500 - 3,000 | 7 lbs. | | 10 | 3/4" - 1" - 1 1/4" |
| | Phantom Grenade | Lightweight alloy construction allows for wider jet angle = more power to the pipe wall | 8" - 24" | 50-100 | 1,500 - 3,000 | 5 lbs. | | 8 | 3/4" - 1" |
| | Chisel Blockage Nozzle | The standard in blockage clearing | 2" - 24" | 7 to 100 | 1,500 - 4,000 | 2 oz. | 4 | 6 | 3/8" - 1/2" - 3/4" - 1" - 1 1/2" |
| | Aquadrill | Great blockage clearing with extra large front jet that "warbles" randomly | 2" - 18" | 11 to 80 | 1,500 | 2 oz. | 1 | 6 | 1/2" - 3/4" - 1" |
| | Torpedo Pulling Nozzle | The pulling champion nozzle, for long runs, hills | 2" - 24" | 14 to 80 | 1,500 | 2 oz. | | 8 | 1/2" - 3/4" - 1" |
| | Fluke, bottom cleaner | Superior silt & debris removal in an economical package | 6" - 36" | 16 to 100 | 1,500 | 17 lbs. | | 10 | 1/2" - 3/4" - 1" |
| | Bulldozer, sediment & debris | The ultimate bottom cleaner, features swivel connection and roll cage | 12" and Up | 50 to 100 | 1,500 - 3,000 | 15 lbs. - 82 lbs. | | | |
| | Spider 60 & 80 chain cutter | When jets alone cannot clear your roots chains | 6" - 12" | 50 to 100 | 1,500 - 3,000 | 18 oz. | | 6 | 3/4" - 1" |
| All Jetting Technologies, Inc. 2740 Martin Downs Blvd., Ste. 318, Palm City, FL 34990 772-286-1218 • (f) 772-286-0069 www.alljetting.com • info@alljetting.com SEE AD ON PAGE 88 | 1/4" - 28 UNF Sapphire Nozzles and Plugs | Ultra High Pressure waterjetting up to 55,000 PSI | NA | 3 to 30 | 20,000 - 55,000 | | 1 | | |
| | 3/8" - 24 UNF Sapphire Nozzles and Plugs | Ultra High Pressure waterjetting up to 55,000 PSI | NA | 3 to 30 | 20,000 - 55,000 | | 1 | | |
| | 7/16" - 20 UNF Sapphire Nozzles and Plugs | Ultra High Pressure waterjetting up to 55,000 PSI | NA | 3 to 30 | 20,000 - 55,000 | | 1 | | |
| | Long Stem Sapphire, 60° seating angle | Ultra High Pressure waterjetting up to 55,000 PSI | NA | 3 to 30 | 20,000 - 55,000 | | 1 | | |
| | M10 x 1.5 thread - 5MM Hex Key | Ultra High Pressure waterjetting up to 55,000 PSI | NA | 3 to 30 | 20,000 - 55,000 | | 1 | | |
| 5/16" Hex with 3/8" - 24 UNF | Ultra High Pressure waterjetting up to 55,000 PSI | NA | 3 to 30 | 20,000 - 55,000 | | 1 | | | |
| Amazing Machinery, LLC 3811 Old Tasso Rd. NE, Cleveland, TN 37312 800-504-7435 • 423-790-1600 (f) 800-504-7436 www.amazingmachinery.com sales@amazingmachinery.com SEE AD ON PAGE 29 | Spin-Jet | Flushing/Finishing | 2" - 24" | 2 to 80 | 500 - 4,000 | 1.2 oz to 8.6 oz | | 6 | 1/8" - 1/4" - 3/8" - 1/2" - 3/4" |
| | Deicer - Degreaser | Removing Ice & Grease | 2" - 24" | 2 to 80 | 500 - 4,000 | 0.9 oz to 5.6 oz | 3 | 6 | 1/8" - 1/4" - 3/8" - 1/2" - 3/4" |
| Arthur Products Co. 1140 Industrial Pky., Medina, OH 44256 800-322-0510 • 330-725-4905 (f) 330-722-2698 www.arthurproducts.com apc@apclsq.com SEE AD ON PAGE 40 | Cnt-r-KUT™ Elite Kit | Roots and Other Blockages | 2" - 12" | 4 to 80 | 2,000 - 10,000 | varies | Cust. Spec | Cust. Spec | 3/8" - 1/2" |
| | Cnt-r-KUT™ Elite Mini Kit | Roots and Other Blockages in tight spaces | 2" - 12" | 4 to 80 | 2,000 - 10,000 | varies | Cust. Spec | Cust. Spec | 3/8" - 1/2" |
| | Cnt-r-KUT™ Basic Kit | Deicing/Degreasing, Penetration, Flushing | 2" - 12" | 2.5 to 80 | 2,000 - 10,000 | varies | Cust. Spec | Cust. Spec | 3/8" - 1/2" |
| | Cnt-r-KUT™ Basic Mini Kit | Roots and Other Blockages | 2" - 12" | 2.5 to 80 | 2,000 - 10,000 | varies | Cust. Spec | Cust. Spec | 3/8" - 1/2" |
| | Cnt-r-KUT™ Tow Hook | Pulling and towing Applications | 2" - 12" | 2.5 to 80 | 1,200 - 15,000 | varies | Cust. Spec | Cust. Spec | 3/8" - 1/2" |
| | Cnt-r-KUT™ Tow Hook | Mini Pulling and towing Applications | 2" - 12" | 2.5 to 80 | 1,200 - 15,000 | varies | Cust. Spec | Cust. Spec | 3/8" - 1/2" |
| | Mini-Mole | Special tapered thread for use in small tube cleaning on rigid lance | .200" - 1" | 1.7 to 20 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | Special tapered thread |
| | Rodder Jets | General tube cleaning for use on Rigid Lance | .250" - 1" | 1.7 to 40 | 1,200 - 15,000 | varies | Cust. Spec | Cust. Spec | Various male thread sizes |
| | Cnt-r-KUT™ Centering Device | Flexible elastomer for nozzle centering - for your existing nozzles | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | | | 3/8" - 1/2" |
| Mega-Thruster PX Revolver | Full 360° rotation for cleaning & polishing; designed for long runs | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | 4 | 3 | 3/8" - 1/2" | |
| Chempure Products Corp. PO Box 740, Bolivar, OH 44612 800-288-7873 • 330-874-4300 (f) 330-874-4448 www.rootrat.net • lloyd@chempure.com | Root Rat | Root & Enc | 2" - 30" | 4 to 150 | | .5 lbs. - 5 lbs. | | | |



SEWER NOZZLE

COMPANY DIRECTORY 2016

| COMPANY | NAME OF NOZZLE | APPLICATION | PIPE DIAMETER | FLOW RATE (GPM) | MAX OPERATING PRESSURE (PSI) | WEIGHT | # OF AVAIL FRONT JETS | # OF AVAIL REAR JETS | HOSE SIZE/ CONNECTING THREAD |
|--|---|--|-------------------|-----------------|------------------------------|--------------------|-----------------------|----------------------|------------------------------|
| Envirosight 111 Canfield Ave., Unit B3, Randolph, NJ 07869 866-936-8476 • 973-252-6700 (f) 973-252-1176 www.envirosight.com office@envirosight.com SEE AD ON PAGE 5  | JetScan | HD video nozzle for jetter trucks and trailers | 6" - 30" | 40 to 80 | 2,000 - 3,000 | 16.3 lbs. | | 6 | 3/4" or 1" |
| Enz USA Inc. 1585 Beverly Ct., Unit 115, Aurora, IL 60502 877-369-8721 • 630-692-7880 (f) 630-692-7885 www.enzusainc.com sales@enzusainc.com SEE AD ON PAGE 16  | Bulldog Antiblaster | Anti-Toilet Blowing in Residential | 8" - 24" | 55 to 80 | 1,500 - 1,800 | 17 lbs. | 6 | | 1" - 1 1/4" |
| | Bulldog | Cleaning grease, roots, deposits, etc. | 8" - 24" | 50 to 120 | 2,000 - 2,900 | 17 lbs. | 7 | 6 | 1" - 1 1/4" |
| | Rotodrill | Cleaning blocked pipes, frozen pipes, heavy debris | 2" - 14" | 13 to 80 | 2,000 - 4,000 | 25 lbs. - 1.5 lbs. | 1 | 6 | 1/2" - 1" |
| | Grenade | Flushing heavy debris | 6" - 12" | 40 to 80 | 2,000 - 3,600 | 11 lbs. | | 10 | 1" |
| | Chisel 60.100L | Penetrating clogs, root masses, frozen pipes | 6" - 16" | 50 to 80 | 2,000 - 3,600 | 6 lbs. | 4 | 6 | 1" |
| | 10.125TR Chain Scraper | Root removal, hard grease, hard deposits | 5" - 12" | 14 to 80 | 2,000 - 3,600 | 6 lbs. | 6 | | 1" |
| | 10.200R Rotating Chain Scraper | Removal of root masses, clogs, hard deposits | 8" - 16" | 50 to 80 | 2,000 - 3,600 | 78 lbs. | | 6 | 1" |
| | 10.400R Rotating Chain Scraper | Removal of root masses, clogs, hard deposits | 16" - 32" | 80 to 120 | 2,000 - 3,600 | 105 lbs. | | 6 | 1" |
| | 14.200 Milling Cutter | Removal of concrete & mineral deposits | 8" | 80 to 120 | 2,000 - 2,200 | 178 lbs. | | 6 | 1" - 1 1/4" |
| | Bulldozer 50.100G | Flushing debris from larger pipe | 16" - 40" | 40 to 80 | 2,000 - 3,600 | 57 lbs. | 1 | 8 | 1" |
| General Pipe Cleaners 1101 Thompson Ave., McKees Rocks, PA 15136 800-245-6200 • 412-771-6300 www.drainbrain.com info@drainbrain.com SEE AD ON PAGE 2 | Chisel Point Nozzle | Penetrating, breaking up debris | 4" - 10" | 12 | 2,500 | 4 oz. | 4 | 6 | 1/2" |
| | Traction Nozzle | Sand and mud removal | 4" - 10" | 12 | 2,500 | 8 oz. | 1 | 6 | 1/2" |
| | Cleaning Nozzle | Maintenance Cleaning | 4" - 10" | 12 | 2,500 | 12 oz. | | 8 | 1/2" |
| | Spring Leader Nozzle | Guiding hose around tight bends | 2" - 10" | 1.5 to 8 | 1,500 - 3,000 | 4 oz. | | 3 to 4 | 1/8" - 1/4" - 3/8" |
| | Downhead Nozzle | Dropping down T's | 2" - 4" | 1.5 to 4 | 1,500 - 3,000 | 2 oz. | | 3 | 1/8" |
| | Chain Saw Nozzle | Cutting roots | 4" - 10" | 4 to 12 | 2,500 - 3,000 | 2 lbs. | | 2 to 4 | 3/8" and 1/2" |
| | Rotary Nozzle | Scour pipe walls clean | 2" - 10" | 1.5 to 12 | 1,500 - 3,000 | 2 oz. to 10 oz. | | 2 to 4 | 1/8" - 1/4" - 3/8" - 1/2" |
| Jetstream of Houston 5905 Thomas Rd., Houston, TX 77041 800-231-8192 • 832-590-1300 (f) 832-590-1304 www.waterblast.com sales@waterblast.com SEE ADS ON PAGES 11, 15 | 15K Orbi-Jet | Surface Cleaning | N/A | 25 | 15,000 | N/A | 4 | | 1/2" NPT Female |
| | 15K Straight Tip | Surface Cleaning | N/A | 51.7 | 15,000 | N/A | 1 | | 1/4" NPT Male |
| | 15K Fan Tip | Surface Cleaning | N/A | 51.7 | 15,000 | N/A | 1 | | 1/4" NPT Male |
| | 15K Rotomag | Pipe Cleaning | >3" | 50 | 15,000 | N/A | 2 | 2 | 3/4" NPT Male |
| | 15K Tube Spinner w/Nozzle | Tube Cleaning | >.5" | 50 | 15,000 | N/A | Various | Various | Various |
| | 15K Compact Nozzle | Tube Cleaning | >.5" | 36.2 | 15,000 | N/A | Various | Various | Various |
| | 15K Evaporator Nozzle | Tube Cleaning | >.5" | 36.2 | 15,000 | N/A | Various | Various | Various |
| | 15K Abrasive Nozzle | Surface Cleaning | N/A | 8 | 15,000 | N/A | Various | Various | 3/8" NPT Female |
| | 20K Orbi-Jet | Surface Cleaning | N/A | 7.5 | 20,000 | N/A | 4 | | 9/16" MP Female |
| | 20K Straight Tip | Surface Cleaning | N/A | 20.7 | 20,000 | N/A | 1 | | Gun Nozzle Holder |
| | 20K Fan Tip | Surface Cleaning | N/A | 20.7 | 20,000 | N/A | 1 | | Gun Nozzle Holder |
| | 20K Rotomag | Pipe Cleaning | >3" | 55.3 | 20,000 | N/A | 2 | 2 | 3/4" MP Female |
| | 20K Pineapple | Pipe Cleaning | >3" | 7.6 | 20,000 | N/A | 4 | 6 | 3/4" MP Female |
| | 20K Tube Spinner w/Nozzle | Tube Cleaning | >.5" | 14.6 | 20,000 | N/A | 2 | 2 | Various |
| | 20K Compact Nozzle | Tube Cleaning | >.5" | 41.8 | 20,000 | N/A | Various | Various | Various |
| | 20K Evaporator Nozzle | Tube Cleaning | >.5" | 41.8 | 20,000 | N/A | Various | Various | Various |
| | 20K Abrasive Nozzle | Surface Cleaning | N/A | 4.8 | 20,000 | N/A | Various | Various | 9/16" MP Female |
| | 40K Tornado Nozzle | Surface Cleaning | N/A | 8.2 | 40,000 | N/A | 3 to 4 | | 9/16" Button Seal |
| | 40K UHPE Nozzles | Tube Cleaning | >.5" | 7.8 | 40,000 | N/A | Various | Various | Various |
| | MyTana Mfg. Co. Inc. 746 Selby Ave., St. Paul, MN 55104 800-328-8170 • 651-222-1738 (f) 651-222-1739 www.mytana.com jdonaldson@mytana.com SEE AD ON PAGE 75 | Cornering | Navigating Elbows | 1 1/2" - 8"+ | 2 to 8 | 1,500 - 3,000 | < 8 oz. | 1 | 3 |
| Penetrating Thrust | | Paper Products | 1 1/2" - 8"+ | 2 to 8 | 1,500 - 3,000 | < 8 oz. | 1 | 3 | 1/8" - 1/4" - 3/8" - 1/2" |
| Blind Thrust | | Pulling Power | 1 1/2" - 8"+ | 2 to 8 | 1,500 - 3,000 | < 8 oz. | | 4 | 1/8" - 1/4" - 3/8" - 1/2" |
| Monster Flush | | Pulling & Cleaning | 1 1/2" - 8"+ | 2 to 8 | 1,500 - 3,000 | < 8 oz. | 1 | 6 | 1/8" - 1/4" - 3/8" - 1/2" |
| General | | Cleaning | 1 1/2" - 8"+ | 2 to 8 | 1,500 - 3,000 | < 8 oz. | | 6 | 1/8" - 1/4" - 3/8" - 1/2" |
| Degreasing/Delcing | | Grease & Frozen Lines | 1 1/2" - 8"+ | 2 to 8 | 1,500 - 3,000 | < 8 oz. | 3 | 6 | 1/8" - 1/4" - 3/8" - 1/2" |
| Rotating | | Cleaning | 1 1/2" - 8"+ | | 1,200 - 4,000 | < 8 oz. | | 2 | 1/4" - 3/8" - 1/2" |
| Drop Head | | Touch Corners Commercial | 1 1/2" - 4" | 2 to 2 | 1,500 | < 8 oz. | | 3 | 1/8" - 1/4" |
| Jetter Leader | | Navigating | 3" - 8" | 4 to 12 | 3,000 | < 8 oz. | | 4 | 3/8" |


SEWER NOZZLE

COMPANY DIRECTORY 2016

| COMPANY | NAME OF NOZZLE | APPLICATION | PIPE DIAMETER | FLOW RATE (GPM) | MAX OPERATING PRESSURE (PSI) | WEIGHT | # OF AVAIL FRONT JETS | # OF AVAIL REAR JETS | HOSE SIZE/ CONNECTING THREAD |
|---|-------------------------------|---|---------------|-----------------|------------------------------|---------------|-----------------------|----------------------|---|
| NLB Corp. 29830 Beck Rd., Wixom, MI 48393 248-624-5555 • (f) 248-624-0908 www.nlbcorp.com nlbmkgt@nlbusa.com SEE AD ON PAGE 25 | Typhoon™ 10 | Tube Cleaning | 5/8" - 3/4" | 9 to 20 | 15,000 - 40,000 | 2 oz. - 4 oz. | 4 to 5 | | varies inches |
| | Typhoon™ 20 | Pipe & Tube Cleaning | 6" - 10" | 20 | 24,000 | 2 oz. | 4 to 5 | | 3/4" - 24" |
| | TS-1 Tube | Cleaning | 1/2" | 5.6 to 8.25 | 10,000 - 15,000 | | 1 to 4 | 6 | 1/16" NPT |
| | TS-1-20K | Tube Cleaning | 1/2" | 4 to 10 | 20,000 | | 1 to 4 | 2 to 6 | 1/4" UFN |
| | TS-1-40K | Tube and Pipe Cleaning | 1/2" | 4.75 to 8 | 40,000 | | 1 to 2 | 2 to 3 | 1/4-28" UNF |
| | RLM | Pipe and Tube Cleaning | 1/2" - 1 1/2" | 5 to 18 | 10,000 - 20,000 | | 1 to 4 | 3 to 6 | varies |
| NozzTeq® Inc. 1497 Main St. #354, Dunedin, FL 34698 866-620-5915 • 603-413-6583 (f) 603-413-6744 www.nozzteq.com • info@nozzteq.com SEE AD ON PAGE 50  | BL Swiper® (Med) | Reduces blown toilets/services | 4" - 36" | 10 to 266 | 400 - 4,000 | 2 - 12 lbs. | | 4 to 6 | 1/2" - 3/4" - 1" - 1 1/4" |
| | JAWS® 100 | High performance sewer cleaning or storm water cleaning | 6" - 12" | 5 to 80 | 400 - 4,000 | 4 lbs. | | 4 | 1/2" - 3/4" - 1" |
| | Multi-Global Nozzle™ | Sewer and pipe cleaning for penetration | 2" and Up | 4 to 170 | 400 - 4,000 | 2 lbs. | 4 | 1 to 6 | 1/2" - 3/4" - 1" - 1 1/4" |
| | JAWS™ | High performance sewer and pipe cleaning heavy debris | 6" - 30" | 30 to 265 | 400 - 4,000 | 7 lbs. | | 5 | 1/2" - 3/4" - 1" - 1 1/4" |
| | IceBear Penetrating Nozzle™ | Sewer and pipe cleaning penetrating nozzle | 1" and Up | 4 to 170 | 400 - 4,000 | 1 - 3 lbs. | 3 | | 1/4" - 1/2" - 3/4" - 1" - 1 1/4" - 1 1/2" |
| | C-RAY 200™ | Bottom cleaning for sewer and pipe | 12" - 36" | 30 to 265 | 400 - 4,000 | 22 lbs. | 1 | 6 | 1/2" |
| | C-RAY 400™ | Bottom cleaning for sewer and pipe | 15" and Up | 40 to 350 | 400 - 4,000 | 42 lbs. | 1 | 8 | 3/4" - 1" - 1 1/4" - 1 1/2" |
| | BL Swiper® (large) | Ventura effect type nozzle to clean with water in the line and sucks the water down | 15" and Up | 40 to 265 | 400 - 4,000 | 13 lbs. | | 39 | |
| | Spinner Nozzles (No rebuilds) | Grease and other obstructions | 4" and Up | 14 to 350 | 400 - 4,000 | 3 - 15 lbs. | 2 | | 1/2" - 3/4" - 1" - 1 1/4" - 1 1/2" |
| | Goblin Grease Eater™ | Grease nozzle sewer lines or storm lines | 6" and Up | 40 to 350 | 400 - 4,000 | 12 lbs. | 1 | 10 | 3/4" - 1" - 1 1/4" - 1 1/2" |
| | MONRO-JET™ | Hydro-Excavation | 2" - 8" | 3 to 20 | 2,000 - 36,000 | 2 lbs. | 1 | 1/2" | |
| | ORCA™ | Two truck operation at either end of the pipe | 15" - 60" | 40 to 350 | 400 - 4,000 | 15 lbs. | | 8 | 3/4" - 1" - 1 1/4" - 1 1/2" |
| | MANTA™ | Bottom cleaner for recycled water trucks | 12" - 72" | 60 to 528 | 900 - 3,000 | 45 - 60 lbs. | 1 | 8 to 12 | 1/2" - 3/4" - 1" - 1 1/4" - 1 1/2" |
| | FIR™ | All stainless type penetrators | 2" - 12" | 5 to 80 | 400 - 4,000 | 1 lb. | 1 | 3 to 6 | 1/8" - 1/4" - 3/8" - 1/2" - 3/4" - 1" |
| | C-RAY 800™ | Dual truck operation for double the flow for large pipes | 36" - 96" | 120 to 350 | 400 - 4,000 | 50 lbs. | | 8 | 3/4" - 1" - 1 1/4" - 1 1/2" |
| RIDGID 400 Clark St., Elyria, OH 44035 800-769-7743 • 440-323-5581 (f) 440-329-4862 www.ridgid.com • ridgidinfo@emerson.com SEE AD ON PAGE 9 | Root Ranger RR3000 | Roots | 4" - 8" | 4.5 to 5.5 | 3,000 - 4,000 | 1.4 lbs. | | 1 | 1/4" NPT Female |
| Sewer Equipment 1590 Dutch Rd., Dixon, IL 61021 815-477-7611 www.sewershop.com sales@sewerequipment.com | Avanti | Obstruction removing for extreme blockages and long distance challenge | 3" - 12" | 14 to 80 | 3,000 - 4,000 | 1 lbs. | | 6 | 1/2" - 3/4" - 1" |
| | Tri-Star | Removal and blockage penetration, including ice | 1/2" - 1" | 14 to 80 | 3,000 - 4,000 | 1 lbs. | 4 | 6 | 1/2" - 3/4" - 1" |
| | Rondo | Use prior to video inspection yields a 360 degree complete clean, free of grease, dirt and debris | 4" - 18" | 30 to 80 | 3,000 - 4,000 | 2 lbs. | | 3 | 3/4" - 1" |
| | Dual Degree | General Cleaning where longer pulls or an incline might be involved | 4" - 18" | 18 to 80 | 3,000 - 4,000 | 4 lbs. | 1 | 8 | 1/2" - 3/4" - 1" |
| | Wiesel | General Pipe Cleaning | 4" - 18" | 18 to 80 | 3,000 - 4,000 | 1 lbs. | 1 | 8 | 1/2" - 3/4" - 1" |
| | Combi Chain Cutter | Aggressive root cutting and mineral deposit removal & general maintenance | 1/2" - 1" | 14 to 80 | 3,000 - 4,000 | 4 lbs. | | 6 | 1/2" - 3/4" - 1" |
| | Mega Series | Storm lines, culverts, large diameter pipes | 4" - 48" | 18 to 80 | 3,000 - 4,000 | 3 lbs. | 1 | 11 | 1/2" - 3/4" - 1" |
| | Power Jet 500 | Cleaning Large diameter where it is difficult or impractical to plug or reroute lines, also older lines where pipe walls are delicate | 20" - 60" | 60 to 80 | 2,000 - 2,500 | 12 lbs. | | 12 | 1" |
| | Roto-Max | Heavy grease removal and entire pipe cleaning along with room maintenance capabilities | 4" - 20" | 18 to 80 | 3,000 - 4,000 | 2 lbs. | 1 | 6 | 1/2" - 3/4" - 1" |
| | Warnax | Cutting concrete, major mineral deposits and solid blockages | 8" - 34" | 80 | 2,500 | 60 lbs. | | 8 | 1" |
| Spartan Tool 1506 W Division St., Mendota, IL 61342 800-435-3866 • 815-537-7411 (f) 888-876-2371 www.spartantool.com customerservice@spartantool.com SEE AD ON PAGE 96  | Warthog | Roots, Grease, General Cleaning | 2" - 18" | 12 to 35 | 2,000 - 4,000 | 1 - 5 lbs. | 1 | 4 | 3/8" - 1/2" |
| | Sandshoe | Sand, dirt and rocks | 4" - 18" | 12 to 18 | 2,000 - 4,000 | 7 lbs. | | 4 | 3/8" - 1/2" |
| | Rotating | Scrubbing pipe walls | 2" - 12" | 4 to 18 | 2,000 - 4,000 | 1 - 3 lbs. | | 3 | 1/4" - 3/16" - 3/8" - 1/2" |
| | Q Nozzle | Downhill jetting | 4" - 12" | 12 to 18 | 2,000 - 4,000 | 1 - 2 lbs. | 3 | 4 | 3/8" - 1/2" |
| | Rocket Nozzle | Long distance jetting | 4" - 12" | 12 to 18 | 2,000 - 4,000 | 2 lbs. | 1 | 4 | 3/8" - 1/2" |
| | Closed Nozzle | Standard jetting | 2" - 12" | 4 to 18 | 2,000 - 4,000 | 1 lb. | | 4 | 3/8" - 1/2" |
| | Open Nozzle | Standard jetting | 2" - 12" | 4 to 18 | 2,000 - 4,000 | 1 lb. | 1 | 4 | 3/8" - 1/2" |
| | Brass Ball | Stainless steel hose jetting | 2" - 8" | 4 to 18 | 2,000 - 4,000 | 1 lb. | | 4 | 3/16" |

SEWER NOZZLE

COMPANY DIRECTORY 2016

| COMPANY | NAME OF NOZZLE | APPLICATION | PIPE DIAMETER | FLOW RATE (GPM) | MAX OPERATING PRESSURE (PSI) | WEIGHT | # OF AVAIL FRONT JETS | # OF AVAIL REAR JETS | HOSE SIZE/ CONNECTING THREAD |
|--|---|---|--|-----------------|------------------------------|---------------------|-----------------------|----------------------|---|
| StoneAge, Inc. 466 Skylane Dr., Durango, CO 81303 866-795-1586 • 970-259-2869 www.sewer-nozzles.com bill.shires@stoneagetools.com SEE AD ON PAGE 4 | Warthog WGR Magnum | Sewer jetting | 8" - 36" | 50 to 80 | 1,500 - 5,000 | 13 lbs. | 1 | 4 | 1" |
| | Warthog WG-1 | Sewer jetting | 8" - 36" | 50 to 80 | 1,500 - 5,000 | 10 lbs. | 1 | 4 | 1" |
| | Warthog WGP-1 | Sewer jetting | 8" - 36" | 50 to 80 | 1,500 - 5,000 | 10 lbs. | 1 | 4 | 1" |
| | Warthog WHP | Sewer jetting | 6" - 18" | 15 to 50 | 1,500 - 4,000 | 4 lbs. | 1 | 2 | 1/2" - 3/4" |
| | Warthog WH | Sewer jetting | 6" - 18" | 10 to 45 | 1,500 - 8,000 | 4 lbs. | 1 | 2 | 1/2" - 3/4" |
| | Warthog WS - 1/2 | Sewer jetting | 4" - 8" | 8 to 20 | 1,500 - 5,000 | 3 lbs. | 1 | 2 | 1/2" |
| | Warthog WT - 3/8 | Sewer jetting | 3" - 6" | 5 to 12 | 1,500 - 5,000 | 1 lb. | 1 | 2 | 3/8" |
| | Warthog WV - 1/4 | Sewer jetting | 2" - 4" | 3 to 8 | 2,000 - 5,000 | 1 lb. | 1 | 2 | 1/4" |
| | Warthog WD 1-1/4 | Sewer jetting | 8" - 36" | 80 to 120 | 1,500 - 5,000 | 11 lbs. | 1 | 6 | 1-1/4" |
| US Jetting, LLC 850 McFarland Pkwy., Alpharetta, GA 30004 800-538-8464 • 770-740-9917 (f) 770-740-0297 SEE AD ON PAGE 79  | RDP (Rapid Power Delivery) | General all purpose cleaning nozzle | 3"-18" | 10-36 | 10,000 | 1 lb | 1-4 | 6 | 3/8" - 1" |
| | RPD Chisel and Egg Style | Forward push when working down stream with the flow | 2"-18" | 10-65 | 5,000 | 1-3 lbs | 1-4 | 6-12 | 3/8"-1" |
| | Standard Drain Jet | De Icing or hard blockage penetration | 3"-8" | 6-18 | 5,000 | 6 oz | 1 | 6 | 1/2" |
| | Ball Jets | Used in damaged pipes with offset joints | 1"-8" | 4-25 | 5,000 | 6 oz-1lb | 1 | 3-6 | 1/8" - 1/2" |
| | Dragon Jet | Large diameter storm drain culvert cleaning | 10" - 48" | 18-80 | 4,000 | 50 lbs | 0 | 4 | 1/2" - 1" |
| | Water Lubricated | Rotary Nozzle Grease and Root Removal | 4"-12" | 10-25 | 10,000 | 3 lbs | 1 | 2 | |
| | Controlled Rotation Nozzle | Grease, roots and hard scale | 4"-18" | 6-80 | 8,000 | 5-20 lbs | 1 | 2-4 | |
| | Monro Orbital Drain | Nozzle Cutting obstacles out of pipes | 4"-12" | 10-30 | 10,000 | 5 lbs | 1 | 3 | |
| | Vac Pump | Venturi vac pump | | 10-25 | 3,000 | 40 lbs | | | |
| | USB - Sewer Equipment Corporation 1700 Enterprise Way, Ste. 116, Marietta, GA 30067 866-408-2814 • 770-984-8880 (f) 770-984-2802 www.usbsec.com • info@usbsec.com SEE AD ON PAGE 61  | Flying Nozzle - 3D | Hilly difficult terrain; Silt, Sand & Large Debris Removal | 4" - 24" | 13 to 120 | 2,000 - 4,000 | 1/2/5/12 lbs. | | 6/8 |
| Cleaning Nozzle - 3D | | General Cleaning of Sand, Silt, Mud & Grease | 4" - 15" | 13 to 80 | 2,000 - 4,000 | 1/2/5/7.5 lbs. | 1 | 8/10 | 1/2" - 3/4" - 1" |
| Pipe Wolf | | Total obstructions & Blockages caused by Roots, Grease & Organic Solid Material | 4" - 24" | 15 to 120 | 2,000 - 4,000 | 2.2/5/8/12.8 lbs. | 3 | 6 | 1/2" - 3/4" - 1" - 1 1/4" |
| Primus Nozzle | | Grease, Scale, Crusts & Roots | 4" - 24" | 15 to 120 | 2,000 - 4,000 | 4/7/7.5/19 lbs. | 5 | 3/4/5 | 1/2" - 3/4" - 1" - 1 1/4" |
| Superior Penetrator Nozzle - 3D | | Pipe lines w/off-sets, drop joints, voids, etc. | 6" - 15" | 30 to 120 | 2,000 - 3,000 | 9.8 lbs. | 1 | 8 | 3/4" - 1" - 1 1/4" |
| Dredger Nozzle | | Removal of heavy solids, silt, sand & sludge at the bottom of pipe | 12" - 96" | 40 to 120 | 2,000 - 3,000 | 22/40/56/59 lbs. | | 6/8/10/14 | 3/4" - 1" - 1 1/4" |
| Antiblaster Nozzle - 3D | | Shallow sewer lines, Sewer lines close to homes | 6" - 12" | 30 to 80 | 2,000 - 3,000 | 4 lbs. | 1 | 8 | 3/4" to 1" |
| Ultimate Chisel Nozzle | | Total obstructions, blockages & pipe deformations | 6" - 24" | 50 to 120 | 2,000 - 3,000 | 5.2 lbs. | 4 | 6 | 1/2" - 3/4" - 1" - 1 1/4" |
| Grand Slam - 3D | | General Sewer Cleaning | 6" - 15" | 50 to 120 | 2,000 - 3,000 | 12 lbs. | | 8 | 3/4" - 1" - 1 1/4" |
| Super Slam - 3D | | General Cleaning in large sewer/storm lines | 10" - 40" | 60 to 120 | 2,000 - 3,000 | 15 lbs. | | 12 | 3/4" - 1" - 1 1/4" |
| VARCO 7489 Mason King Ct., Manassas, VA 20109 866-872-1224 • 703-334-5980 (f) 703-334-5979 www.varcopumper.com ron@varcopumper.com SEE AD ON PAGE 62  | Super Sewer Squad Kit | Penetration, Flushing, Deicing, Degreaser, Polishing | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/8" - 1" |
| | Elite 6 Pack Nozzle Kit | Penetration, Flushing, Deicing, Degreaser, Polishing | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/8" - 1" |
| | Evaporator (EV) | Deicer, Degreaser | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/8" - 1" |
| | Impactor (LT) | Heavily fouled pipes | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/8" - 3/4" |
| | PX Revolver | Full 360° rotation for cleaning & polishing | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Optional | Cust. Spec | 1/8" - 3/4" |
| | Round Nose (Button) | General Cleaning/Cornering | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/16" - 1" |
| | Round Nose Hex | Penetration or Flushing | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/8" - 1" |
| | B Style | Penetration or Deicing, Degreaser | 1" - 24" | 1.7 to 80 | 1,200 - 10,000 | varies | Cust. Spec | Cust. Spec | 1/8" - 3/4" |
| Water Cannon Inc. 4044 W Lake Mary Blvd., Units 104-424, Lake Mary, FL 32746 800-333-9274 • (f) 888-928-9274 www.watercannon.com sales@watercannon.com SEE AD ON PAGE 94 | Arzino - Eggstyle | Drain Cleaning & Flushing | 2" - 10" | 7 to 80 | 4,000 | 2 oz. - 3.3 lbs. | 1 | 6 | 1/4" - 3/8" - 1/2" - 3/4" - 1" - 1 1/4" |
| | Aqua-Noz | Drain Cleaning | 1" - 24" | 2 to 80 | 1,200 - 15,000 | .05 lbs. - .55 lbs. | 3 | 6 | 1/4" - 3/8" - 1/2" |

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Aqua Mole, StoneAge Warthog

Amazing Machinery, LLC
3811 Old Tasso Rd. NE, Cleveland, TN 37312
800-504-7435 • 423-790-1600 • (f) 800-504-7436
www.amazingmachinery.com • sales@amazingmachinery.com

SEE AD ON PAGE 29

Arthur Products, J.E. Adams, MTM Hydro, Suttner

Draincables Direct
1703 Toll Gate Dr., Maumee, OH 43537
800-421-4580 • (f) 800-752-8524
www.draincables.com • sales@draincables.com

SEE AD ON PAGE 39

Aqua Mole

Dultmeier Sales
13808 Industrial Rd., Omaha, NE 68137
800-228-9666 • 402-333-1444 • (f) 402-333-5546
www.dultmeier.com • dultmeier@dultmeier.com

Arthur Products, Mosmatic, Spraying Systems, Suttner, UDOR

Jetstream of Houston
5905 Thomas Rd., Houston, TX 77041
800-231-8192 • 832-590-1300 • (f) 832-590-1304
www.waterblast.com • sales@waterblast.com

SEE ADS ON PAGES 11, 15

StoneAge

Jetter Depot
745 Atlanta Rd., Ste. 207, Cumming, GA 30040
(f) 678-807-2944
sales@jetterdepot.com • www.jetterdepot.com

SEE AD ON PAGE 87

Nuova Contec

MTech
7401 First Pl., Cleveland, OH 44146
800-362-0240/440-646-0996 • (f) 440-646-9953
www.mtechcompany.com • sales@mtechcompany.com

SEE AD ON PAGE 88

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www.spartantool.com • customerservice@spartantool.com

SEE AD ON PAGE 96

StoneAge Warthog

The Cable Center
8318 Olive Blvd., St. Louis, MO 63132
800-257-7209 • 314-993-3099 • (f) 314-432-8024
www.thecablecenterinc.com • thecablecenter@gmail.com

SEE ADS ON PAGES 58, 62

General Wire Spring, RIDGID, StoneAge

Vac-Con, Inc.
969 Hall Park Rd., Green Cove Springs, FL 32043
904-284-4200
www.vac-con.com • vns@vac-con.com

SEE AD ON PAGE 3

Enz USA

Water Cannon Inc.
4300 W Lake Mary Blvd. Units 101-424, Lake Mary, FL 32746
800-333-9274 • (f) 888-928-9274
www.watercannon.com • sales@watercannon.com

SEE AD ON PAGE 94

Canin, Carnia, Fara, Isonzo, MTM Hydro, Natisone, Piave, Raat, Rotor Spin, Tremol, Turbo Avian

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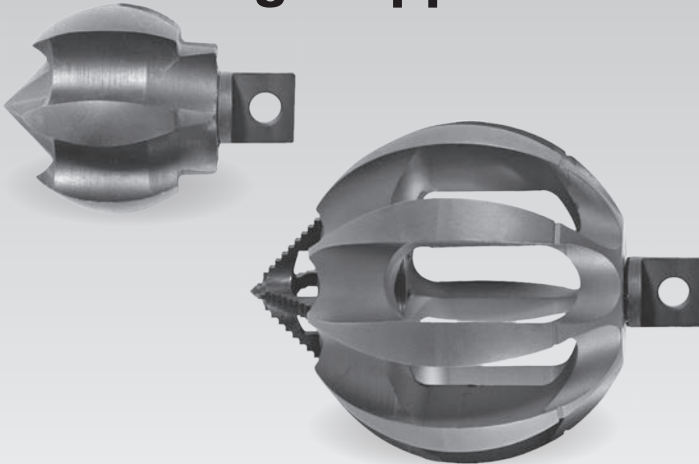
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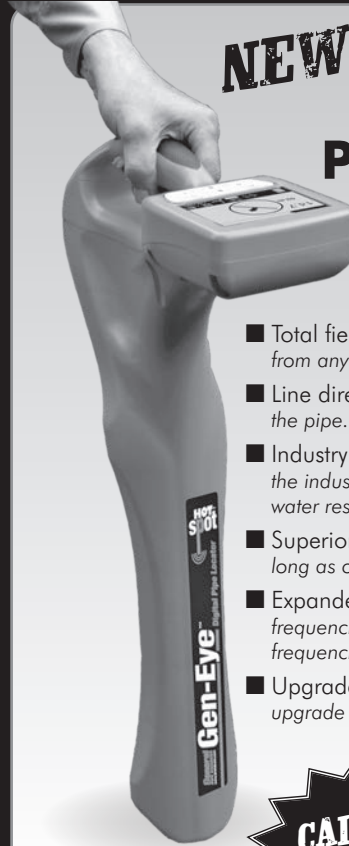
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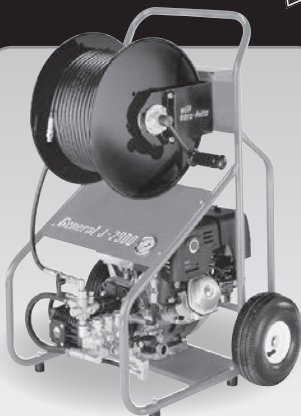
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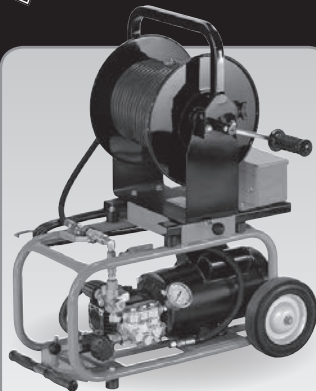
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Getting It Done

Mississippi contractor relies on Vactor combination vac trucks for power and productivity

By Ken Wysocky

When you say you can get the job done, you better follow through. That's exactly why B Clean, a multifaceted service contractor based in Laurel, Mississippi, has been investing in Vactor 2100 combination trucks for more than a decade.

The highly diversified company — which does sewer cleaning and inspections, wet and dry industrial and municipal vacuuming, hydroexcavating, hydroblasting and power washing — owns four 2100s (two are 2100 Plus models equipped with hydroexcavating packages). They're used for everything from jetting sewer lines and cleaning lift stations and manholes on the municipal side to cleaning drainlines in chicken-processing plants, sawmills and paper mills on the industrial side.

"Vactors do a great job of holding pressure and vacuuming," says Chris Hodge, sales manager for the company, founded in 2000 and marketed under the slogan, "We'll get the job done." The company serves Southeastern United States (primarily Alabama, Louisiana and Mississippi). "They are top-of-the-line units that function well and are quality-built. And they are sleek, good-looking trucks, too."

Hodge says that when B Clean crews pull up on a job site, the last thing they want to project is the image of a company that does things on the cheap. While some may call this effective branding or market differentiation, Hodge says it's also about professionalism. Moreover, it's hard to justify charging customers good money when equipment looks shoddy and ill-maintained.



LEFT: Vactor operator Scott Dykes of B Clean in Laurel, Mississippi, cleans a sewer line outside an apartment complex. The company owns four Vactors it uses for everything from hydroexcavating to cleaning chicken processing plants.

BELOW: One of the B Clean Vactor 2100s off-loads debris after a job.



OWNER: B Clean LLC, Laurel, Mississippi

MACHINES: Four Vactor 2100 combination vacuum trucks (two equipped with hydroexcavating packages)

FUNCTION: Waterjetting/vacuuming for industrial and municipal applications

FEATURES: 3,000-gallon debris tank; Vactor water pump (3,000 psi/80 gpm); 6,000 cfm Roots Systems blower; 1,500-gallon water tank; 15-foot-long boom that rotates up to 180 degrees; hydraulically operated rear debris-tank door; 600 feet of 1-inch-diameter hose

COST: About \$400,000

WEBSITE: www.bcleanllc.com

“The 2100s are made out of stainless steel — no plastic,” he points out. “They look like high-quality pieces of equipment. Even our oldest truck, bought in 2005, still looks very good. We put a lot of emphasis on looking professional and doing quality work. That’s how we get repeat customers.”

The trucks are built on Kenworth, Ford and International chassis. They each feature a 3,000-gallon debris tank, a Vactor water pump that generates pressure of 3,000 psi and flow of 80 gpm for jetter cleaning, a 6,000 cfm Roots Systems (Howden Roots) blower, a 1,500-gallon water tank, a 15-foot-long boom that rotates up to 180 degrees for maximum coverage, a hydraulically operated rear debris-tank door and 600 feet of 1-inch-diameter hose.

One of B Clean’s biggest markets is cleaning out drainlines that clog up with chicken fat and other debris in poultry-processing plants. Unclogging drains quickly is critical because if water can’t flow through these plants’ complex pipeline systems, the plant must shut down. “These plants use about 10 gallons of water per chicken and process a million chickens a week,” he explains. “The water carries a lot of the waste through the system and then is recycled. When there’s no water flowing through those 12-inch lines, they lose thousands of dollars’ worth of production every minute.

“Anything can get in those lines and stop them up,” he adds. “So we’ve got to be there to quickly remove whatever is clogging them up.”

Cleaning hard-to-access sewer lines that might run more than 500 or 1,000 feet from a roadway also poses a challenge. But the 2100s are always up to the task. “For some remote sewer lines, we might have to add more (jetter)

hose ... so we might be working with 1,000 feet of hose,” Hodge notes. “But the trucks still hold pressure just fine.”

The 2100s also excel at another tough job: cleaning out lift stations up to 30 feet deep. “It’s hard to get water that deep up and into the truck,” Hodge says. “But the 2100 blower is the best option to do that kind of work. It can move enough material to stay ahead of the water flow.”

To increase productivity and efficiency, B Clean adds an optional 4-inch sludge pump on each truck. The pumps off-load material while the unit keeps on vacuuming, which allows them to run continuously, as opposed to stopping so crews



can open a valve and gravity-dump the accumulated waste, which is a time-consuming — and profit-killing — process. “The sludge pumps sometimes will cut the time it takes us to do a job by 50 percent,” Hodge says.

Speaking of continuous operation, Hodge says he’s seen the 2100s run as much as 48 hours without stopping while they, for instance, skim debris from an aerobic sewer lagoon. That testifies to the trucks’ reliability — another key asset, since downtime reduces productivity and profitability while decreasing customer satisfaction.

“We don’t commonly do that, but it’s good to know that we can if we have to,” Hodge says. “Running 12 to 16 hours in a row is not unusual. Reliability is one of the things that keeps us in business. Like our slogan says, it’s all about getting the job done.” **C**

SHOW US THE MONEY (MACHINE)

Money Machines, a feature in *Cleaner*, reports on innovative work vehicles that help contractors operate more efficiently, satisfy customers and earn more profit. We’d like to know about your Money Machine — be it a service van, camera truck, jetting rig, vacuum unit or any vehicle that really helps drive your business. To nominate your vehicle for a feature in this column, send an email to editor@cleaner.com. Tell us briefly but specifically what features make it a great producer. And send a picture — because appearance counts. We look forward to seeing your Money Machine.

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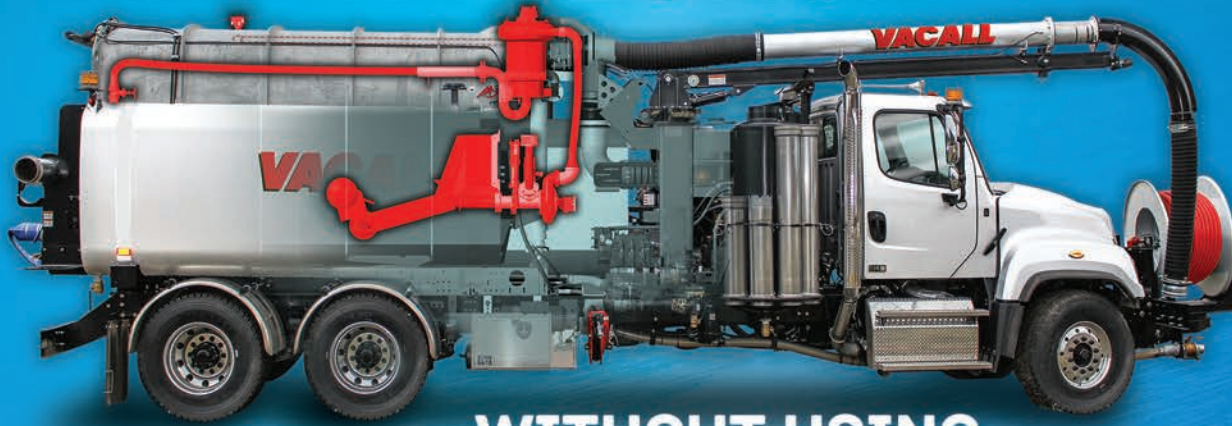
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VACALL

Keep Your Operators Safe and Comfortable

Expert tips to ensure your hydroexcavation team gets the job done and comes home safe

By Jessica Banner

A successful hydroexcavation operation requires the right equipment and the right people. Replace either part of the equation with less than the best and your work will suffer.

A GOOD TRUCK

Don Schlomka, of Schlomka Vac Truck in Hastings, Minnesota, says the truck is the key. "You have to have a good truck you can count on and good operators to run it." When you're an operator, your truck is like an extension of yourself. It's imperative to know the correct way to run, maintain and prep it for the next day's work.

In order to make sure his guys are 100 percent adept, Schlomka provides ongoing training on the ins and outs of his trucks whenever he sees fit.

"I have a good relationship with the guys I buy my trucks from. They will send over a trainer to come by and run through training anytime I call and ask." His trucks are state of the art, and he's proud to be able to provide his customers and operators with the technology that gets the job done in a safe, affordable and efficient manner. Schlomka depends on his trucks to be the ultimate beast when it comes to superior suction and water pressure, and the bottom line is he delivers every time.

ARMED WITH GROUNDING PADS

Working with water and electricity has the potential to be a recipe for disaster. In order to keep operators completely safe, they should be equipped with grounding pads at every job site.

If the unthinkable happens and a power line is accidentally hit, the grounding pad will instantly ground out the electrical current with no harm

done to anyone. Providing excavators with this important means of safety is just one more way to protect the operators.

QUALITY MAKES A DIFFERENCE

The natural elements are an operator's everyday adversary. The only way to compete with the snow, rain and cold is to arm oneself with the highest quality of gear. According to Curran Clark of Crossfire LLC in the Four Corners region of Colorado, having rubberized neoprene boots, rubber-insulated gloves and a good pair of waterproof bibs are all a necessity.

"The weather is a major factor in our day-to-day operations: rain, snow, cold," says Clark. "We dig with high-pressure water when it's 20 below zero, and we do what we can to keep ourselves somewhat comfortable. Cold hands and feet could mean an operator is done for the day."

Kirk Cundiss, another operator from Crossfire, would agree that a good pair of steel-toed boots is essential. "Not only are steel-toed boots OSHA required, but they provide a level of safety to our operators. Our guys utilize their feet to shield themselves, and in the past I've seen people get injured with water due to not wearing the right boots."

OPERATORS STAYING SAFE

For all excavators, the probability of dealing with flying debris is a definite. Operators must have the proper equipment to adequately protect themselves and their faces.

From face shields to safety glasses or goggles, having the right equipment to ensure water and dirt don't spray directly into one's face is crucial. Every operator has his own preferences when it comes to safety wear. The important factor is having something that does the trick and keeps every man safe and comfortable. And don't forget earplugs.

Equipment always makes a difference. In the case of working against the weather and in situations that can be challenging and uncomfortable, operators deserve to have the best of the best when it comes to equipment.

It can get rough out there, and whatever it takes to make the day and the job a little bit easier is well worth it. **C**

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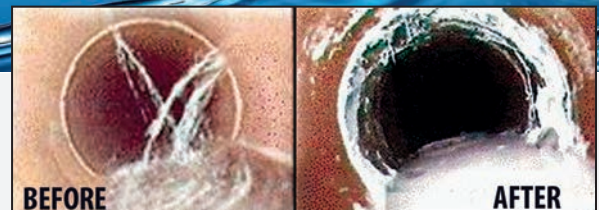


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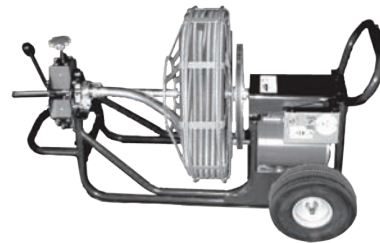
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A Clearer Way to Communicate

Headsets boost job site safety and productivity while keeping hands free for work

By MaryBeth Matzek

Communication on a construction site, during cleaning operations and while operating any piece of equipment is vital to not only getting the job done, but getting it done safely. To cut through the noise and stay safe, more operators are turning to wireless headsets as a solution.

Technology advances make headsets easier to use than ever before, says Matt Cannell, director of marketing for Sonetics Wireless Headsets. Sonetics uses a proprietary wireless technology in its headsets, providing users with full-duplex audio, which means workers can talk to each other as if they're on a conference call.

"There's no buttons to push, just put on the headsets and talk to each other," he says, adding that the headsets pair to a wireless base station. Each station has five headsets and users can have five separate channels on the base so they can have secure conversations as needed. "It's completely secure and encrypted so users can trust that they won't be picking up frequencies from other technologies and they won't be overheard on someone else's channel."

"When you've got multiple bodies on a job site and heavy equipment or operations that require precision and attention, a user can't afford to miss hearing instructions, signals or warnings."

Matt Cannell

A VITAL TOOL

Work site communication is vital for both safety and for worker productivity.

"The No. 1 factor for on-the-job accidents is communication breakdown. When you've got multiple bodies on a job site and heavy equipment or operations that require precision and attention, a user can't afford to miss hearing instructions, signals or warnings," he says. "But when instructions are missed, not only are risks increased, productivity goes down because either you have to stop what you're doing to make sure the crew hears you over the equipment, or mistakes are made and you have to course-correct operations, resulting in duplicate efforts and slips in schedules."

Most crews use hand signals or shouting to communicate with each other. These methods aren't the most reliable and instructions aren't always clearly interpreted, which is a huge issue if individuals need to react quickly in a safety situation, Cannell says.



Wireless headsets from Sonetics provide an extra level of safety by allowing workers to communicate hands-free on noisy job sites with heavy equipment.

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|------------------|--------------------|------------------|---------|---------------|------|-------------------|----------------------------|----------------|
| | | | n | Dia. mm (in.) | | | | |
| 20/30 | 2000 (30000) | 17.9 (4.7) | 1 | 0.8 (.031) | - | 75 (3) | 0.5 (20) | No penetration |
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“Another big benefit is stress relief. When crews are shouting or trying to interpret hand signals, if things don’t happen quite as intended, the stress goes up,” he says. “When the ‘all-stop’ is called, when the headsets are on, everyone hears it. This sometimes can be a matter of seconds to react or someone could get injured or even killed.”

Headsets not only help improve communication, they can also protect workers’ ears from machine noise, which over time can lead to hearing loss.

LEVELS OF SUPPRESSION

Sonetics’ headsets include 20 dBA of hearing protection and include automated noise suppression, which means if an employee is standing next to a loud piece of equipment, the noise will be canceled out and the user will just hear what other members of the crew are saying. The headsets also include listen-through technology, which allows users to let in the right amount of environmental noise, Cannell says.

“If users need to hear equipment warnings, signals or even traffic, they are not cut off from their surroundings. This is critical for users who deal with traffic or highly dynamic environments where situational awareness cannot be sacrificed,” he says.

Loud noises can also be stressful on the body and by lowering the sound levels, Cannell says it makes the work site less hectic.

“We keep folks in clear communication at all times, lower the loud noises, remove the need for shouting and the job environment suddenly gets more calm, more productive and more enjoyable,” he says.

ADDED MOBILITY

Wireless headsets are also replacing another construction site staple — two-way radios — because headsets allow workers to talk and work at the same time.

“A lot of guys and gals depend on two-way radios on the job site, but the challenge is either they can’t hear the radio when it’s clipped to their vest, or when they do hear it, they have to push a button to communicate back,” he says. “That’s tough when your hands are tied trying to work or operate equipment. The headsets have no buttons to push, no interruptions.”

That last piece is essential, since if two workers push the button on a two-way radio to communicate at the same time, they can lock out the channel.

“That means nothing gets communicated and if that’s when an all-stop happens, it can be a real challenge,” Cannell says.

EXPANDING OPTIONS

Workers can also integrate their portable radios with their headsets or add in Bluetooth technology so they can connect to cellphones or listen to music while working. The headset works just like any Bluetooth device — as a call comes in, the user is prompted and can push a button to take the call. During the call, the worker is locked out of the wireless conversation so it’s kept private, Cannell says.

“When the call is done, they push that same button again and hang up the phone, and they’re back live in the conversation with the headsets,” he says.

When it comes to the headsets’ range, they typically work up to 1,600 feet, Cannell says.

“If users need more range or want to integrate their portable radios, they can plug those into the comhub or headset and push-to-talk over the radio. This gives users who need more range an easy way to go farther,” he says.

For workers who just want a personal headset and don’t need or want a mic boom for talking, there is a style available that provides the high level of hearing protection with the listen-through technology. **C**

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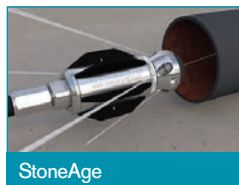
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Ditch Witch

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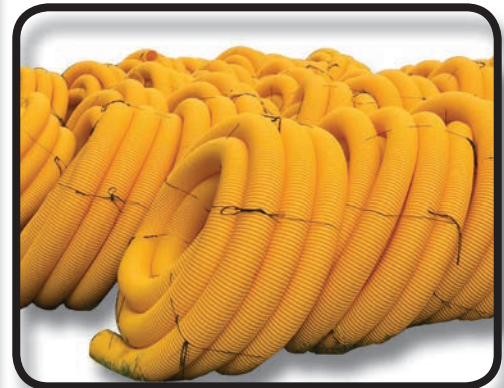
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equipment and tools. The "Park-n-Dig" design minimizes the time between arriving on the job site and excavation, including the ability to dig up to 6 feet without additional pipe and hose. The standard extendable boom with 6-inch vacuum hose delivers high airflow. It has a 4-inch rear loading port and hose system for quick excavation or clean-out applications. The truck has a maximum payload of more than 6,000 pounds of spoils. **800/627-3171; www.vactor.com.**

WESTECH VAC SYSTEMS HYDROVAC CODE (TC407)

The **Hydrovac Code (TC407)** excavation truck from **Westech Vac Systems** is specified with a TC407 rating (hazardous goods transport capable). The truck allows quick access to buried water mains and natural gas and petroleum pipelines, cutting through hardened scale and frozen ground with reduced risk of damage. It can handle unpredictable off-road applications and unknown hazardous materials, in every type of weather from the freezing cold of winter or the heat and humidity of summer, from minus 40 to 95 degrees F. Each unit has quick and easy setup so work can begin immediately, maximizing efficiency and productivity. Debris body capacities range from 11.8 to 13 cubic yards. It has heated rear door valves, heated hose reel cabinet, and glycol and air purge winterization systems. **780/955-3030; www.westechvac.com.**



Westech Vac Systems

INDUSTRIAL VACUUM TRUCKS

GAPVAX XVT

The **GapVax XVT** is designed to vacuum-convey heavy sludges such as drilling fluid, grease, septic and wastewater. The deep vacuum power of the positive displacement blower loads quickly. The PD blower can also pressure off-load up to 14 psi (rated 1,400 cfm at 28 inches Hg). The body is constructed of 1/4-inch ASTM A-572 Grade 50 steel with a payload option from 80 to 100 barrels with a 40-degree dump angle. The filtration system consists of a 10-micron washable Dacron filter and has quick access with no tools needed. The full-opening tailgate with dual lift cylinder and field-adjustable locks ensures a complete seal. Common options include a hydroexcavation package, lift axle, integral water tank, safety lighting, storage compartments and heavy-duty rear bumper. **888/442-7829; www.gapvax.com.**



GapVax

GUZZLER MANUFACTURING NX

Built for cleanup and recovery of a wide range of materials, including solids, dry bulk powders, liquids, slurries, and thick, heavy sludge, the **NX industrial vacuum loader** from **Guzzler Manufacturing** provides total operator control over working speed. Its powerful Robuschi blower delivers 5,435 (free air) cfm, with vacuum capabilities up to 28 inches Hg. The larger, injection-cooled blower allows the operator to load more material at a lower engine



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rpm, conserving fuel and significantly reducing noise levels, eliminating the need for a sound shroud. The cyclone and bag houses are configured together to maximize efficiency and reduce overall truck weight, without sacrificing loading capacity. An increased filter area, combined with offline cleaning, extends bag life while forcing carryover back to the debris tank. 800/627-3171; www.guzzler.com.

JET/VAC COMBO UNITS

J. HVIDTVED LARSEN RECYCLER

The RECYcler sewer cleaning unit from J. Hvidtved Larsen uses water reclamation technology to capture, filter and reuse wastewater to clean. The wastewater is cleaned through a multistep filter system to separate the solid particles from the water to recycle water during the entire day, saving thousands of gallons of drinking water and improving operational efficiency while reducing operating costs. www.hvidtved.com.



J. Hvidtved Larsen

SEWER EQUIPMENT MODEL 900 ECO

The Model 900 ECO from Sewer Equipment is available in 9-, 12- or 15-yard debris capacities, comes equipped with Duraprolene water tanks carrying 900 to 2,000 gallons of onboard water, and has a Hydro Drive powertrain system, eliminating the need for a transfer case. Both single-piston and triplex-pump options are available with 55 to 80 gpm at 2,000 to 3,000 psi, a 4,400 cfm blower and 18 inches Hg. It is built on an eco-friendly platform, which provides greater fuel efficiency and offers noise reduction. 877/735-4640; www.sewerequipment.com.



Sewer Equipment

TORNADO GLOBAL HYDROVACS F3-ECO

The F3-ECO from Tornado Global Hydrovacs holds 12 cubic yards of mud and more than 1,700 gallons of freshwater. This unit is over 2,000 pounds lighter than the company's older models, meaning the operator can carry extra payload in the debris tank. The boom has a 342-degree rotation and a 26-foot reach. All critical components are housed in an insulated and heated aluminum van body. Operators do not need to hoist the tank to empty it, eliminating the dangers of dumping on uneven ground and overhead power lines. 877/340-8141; www.tghl.ca.



Tornado Global Hydrovacs

US JETTING JETVAC

The JETVAC from US Jetting has a Robuschi RB-DV 65 blower pulling 850 cfm and 25 inches Hg, and an efficient cyclone system with silencers and filters that are easy to maintain. The unit has a USJ Pump with 3,000 to 4,000 psi and 10 to 18 gpm options available. A 550-gallon debris tank and a 200-gallon water tank



US Jetting

help keep the size and weight down so a CDL is not required to drive the unit. It has a high-dump system to dump loads into a standard dumpster for transportation or storage. 800/538-8464; www.usjetting.com.

VACALL ALLJETVAC

AllJetVac combination sewer cleaners from Vacall provide governments and contractors with collection performance features for sewer line maintenance, powered by a single chassis engine that slashes fuel consumption, cuts harmful emissions and reduces routine maintenance downtime. They have a strong positive displacement blower system for jetting action and vacuum power. The oval-shaped debris body has cylindrical sides for extra strength and efficient material dumping. Water tanks, fabricated from high-quality aluminum, are mounted high on the chassis away from road debris. Galvanized debris bodies and water tanks are available. The AllSmartFlow CANbus control system has a programmable LCD display that monitors engine, water flow and vacuum performance while allowing for more precise boom and reel movements. Water flow control monitoring can reduce trips for refills. 800/382-8302; www.vacall.com.



Vacall

ROOT CONTROL EQUIPMENT

ARTHUR PRODUCTS CNT-R-KUT ELITE

The Cnt-r-KUT Elite from Arthur Products is a rotating mechanical tool designed to symmetrically clean pipes. Equipped with interchangeable chain and cable on the same rotor, the cutter operates at 2,000 to 10,000 psi. The lightweight, flexible centering device, engineered from an aerospace elastomer, allows the unit to navigate the contour of the pipe. Advanced jet porting uses both rotor sidekick jets for optimizing rotational force and rear thruster jets for propulsion maximization. It is available in 3/8-, 1/2- and 1-inch NPT. 800/322-0510; www.arthurproducts.com.



Arthur Products

ID-TEC PRECISION JET CUTTING

Precision Jet Cutting from ID-TEC applies high pressure and low flow directly to the root mass from a steerable nozzle at the front of a robot. The operator uses the controls to set the pressure to what is required, generally 7,250 psi for removing roots from lateral connections, pipe manhole connections and at joints. A camera provides eyes on the operation and helps the operator to ensure that the line is completely clear before he moves on to the next. The technique can be used in 6-inch and larger pipelines and reduces consumption of water, fuel and time as a dense root mass is cleared in minutes. It is available for the SR-SERIES in combination with continuously adjustable high-pressure units. 503/504-8474; www.sr-series.com.



ID-TEC

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NOZZTEQ LUMBERJACK

The **Lumberjack** cutting nozzle from **NozzTeq** is a low-torque, high-speed cutter for use with high water pressures. It can be used to cut roots, and is also commonly used to cut grease, tuberculation, protruding laterals and other buildups. Because it's low torque, it's unlikely to cut through host pipes. The bearings are sealed, grease lubricated and water cooled, and largely maintenance free. The cutters rotate at a minimum speed of 10,000 rpm with flow rates from 10 to 250 gpm at varying pressures. They operate in pipes from 3 to 48 inches. All models clean with chain links, with optional cutting blades for severe blockages. All models come with a propelling jet housing, while some have tow rings available. 866/620-5915; www.nozzteq.com.



NozzTeq

USB-SEWER EQUIPMENT CORPORATION TURBO CHAIN CUTTERS

Turbo Chain Cutters from **USB-Sewer Equipment Corporation** are made of tempered stainless steel and offer continuously adjustable guide skids. The chain retainer is driven by a high-performance turbine to remove roots, grease and mineral deposits from 4- to 48-inch sewer lines. With an optimized 3-D hydromechanics design in conjunction with ceramic nozzle inserts, the cutters use recycled or clean water. They can be used as barrel cutters with diamond bits for smooth removal of protruding laterals. Heavy mineral deposits can be removed with carbide bits attached to the specialized chain. 866/408-2814; www.usbsec.com.



USB-Sewer Equipment Corp.

SAFETY EQUIPMENT

BRASS KNUCKLE PROTECTION VADER COMBO

Vader Combo vented splash goggles from **Brass Knuckle Protection** help fight fog, impact and spray-back. Their integral face shield offers full-face protection with antifog properties. They combine a D3-rated dust and splash protection goggle with an ANSI Z87.1+ impact-rated, hard-coated polycarbonate face shield. The goggle has N-FOG antifog coating, ensuring antifog protection that exceeds by 15 times the only existing antifog standard (European EN 166/168). 770/674-8930; www.brassknuckleprotection.com.



Brass Knuckle Protection

GARDNER DENVER WATERJETTING SYSTEMS PRS UNLOADER

The **Pressure Regulating System Unloader** nitrogen-regulated pressure unloader valve for multiple guns from **Gardner Denver Waterjetting Systems** uses a nitrogen bladder to maintain at least 98 percent pressure to allow multiple operators unrestricted freedom and safety, while reducing shock to operators when guns are actuated. It absorbs the shock from the



Gardner Denver

energy in a rubber bladder inflated with a cushion of high-pressure nitrogen able to safely actuate water pressure up to 20,000 psi. 281/448-5800; www.gardnerdenverproducts.com.

TST SWEDEN AB HOSE PROTECTION/SHROUD

The **Hose Protection/Shroud** protective cover from **TST Sweden AB** protects the operator when water-blast guns are held near vital parts of the body or when hoses break, often near couplings and connections like on the gun. It provides effective protection and has been tested for 7,500 psi. An adjustable strap holds the protective covering securely in place. The covering is smooth and flexible. It is 2.6 feet long with a diameter of 1.6 inches and weight of 0.45 pounds. www.tst-sweden.com.



TST Sweden AB

TRUCK/TRAILER JETTERS

AMAZING MACHINERY BOSSJET MAX

BossJet Max jettors from **Amazing Machinery** offer versatile hose reel configurations, with the choice of no reels, a fixed reel, or a 360-degree stainless steel pivoting reel, and with a mounting bracket for an optional remote hose reel for indoor jetting. They come with Honda, Kohler, Yanmar or Vanguard engines, with or without electric start. Pump options include CAT, A/R and General, with pressures up to 4,200 psi and flow rates up to 5.5 gpm. The frame is powder-coated 1.5-inch tubular steel, which wraps around the engine and pump for protection. Each unit comes with a laser nozzle and washdown accessories with 50 feet of leader hose. 800/504-7435; www.amazingmachinery.com.



Amazing Machinery

AMERICAN JETTER 51TD SERIES

The **51TD Series** diesel jettor from **American Jetter** offers a wide range of water-cooled diesel power using Perkins engines. Flows range from 8 to 40 gpm up to 5,000 psi. Low-water shut-off prevents pump damage if the water tank runs low. Standard hose reel speed control allows for precise cleaning. The heavy-duty square tubing trailer offers standard electric brakes on both axles. 866/944-3569; www.americanjetter.com.



American Jetter

ELECTRIC EEL EEL JET EJ3000

The **Eel Jet EJ3000** high-pressure jettor from **Electric Eel** cleans 2- to 8-inch-diameter drainlines for a fast blast through clogs including sludge, ice, grease, sand, soap, dirt and debris. It comes with steel nozzles to penetrate and clean tough problems from pipe walls with a variety of spray angles. It can be used to clean lines up to 300 feet, and offers 3,000 psi at 4.7 gpm, a 13 hp overhead valve engine for smooth running and dependable operation with electric start available, a 2-1 gear-reduced triplex pump with pulsation for longer



Electric Eel

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The JETVAC has a Robuschi Blower (RB-DV 65) pulling 850 CFM and 25" HG and an extremely efficient cyclone system with silencers and filters that are easy to maintain. The unit has a USJ Pump with 3-4,000 PSI and 10-18 GPM options available. A 550 gallon debris tank and a 200 gallon water tank help keep the size and weight down so a CDL license is not required to drive the unit. The JETVAC is equipped with a high dump system to dump loads into a standard dumpster for transportation or storage. The JETVAC is designed to be practical, economical, durable and powerful. Please contact us for more information.

JETVAC



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life, a 300-foot-capacity hose reel, a throttle-back control that automatically adjusts engine speed, and a low-tone muffler for quiet operation. It uses 1/4- and 3/8-inch-diameter jet hose. It has 12-inch pneumatic tires for easy maneuverability on a rugged steel base with front bar for motor protection. 800/833-1212; www.electriceel.com.

GENERAL PIPE CLEANERS TYPHOON

The **Typhoon** trailer jet from **General Pipe Cleaners** blows away blockages in big lines and long runs, delivering 12 gpm at 2,500 psi to blast lines clean of grease, sediment and debris. A 200-gallon holding tank carries enough water to handle remote applications where access to water is limited. A 690 cc Honda engine powers the pump with Vibra-pulse to help slide the nozzle around tight bends and propel the hose down long lines. Its high-performance nozzles incorporate fluid mechanics that increase thrust, pulling power and cleaning power without needing to increase water flow or pressure. Two hose reels — a jet hose reel with 400 feet of 1/2-inch hose with variable-speed electric rewind, and a water supply hose reel carrying 150 feet of 3/4-inch hose — are mounted at the rear of the unit. Engine controls, including an hour meter, are mounted within easy reach in the lockable toolbox with slide-action doors just below the reels. It has electric brakes, safety strobe light, safety cones with holder, rear fold-down stabilizer jacks, retractable hose guide arm and antifreeze system. 800/245-6200; www.drainbrain.com.



General Pipe Cleaners

HI-VAC CORPORATION O'BRIEN 7000 SERIES

The **O'Brien 7000 Series** trailer-mounted jetter from **Hi-Vac Corporation** comes with water tanks and a sediment pump for easier cleaning and longer life. The trailer has the muffler and air cleaner mounted inside the enclosure for improved sight lines, electric reel control for smoother rotation and easier operation, and hydraulic and water gauges mounted in the main control panel for easier viewing. 800/752-2400; www.hi-vac.com.



Hi-Vac Corporation

HOT JET USA VAC 'N JET

Vac 'n Jet trailer-mounted sewer jetters from **Hot Jet USA** are compact, about one-quarter of the size of a hydroexcavation truck. They are available with hot- or cold-water options, with a choice of 23 or 35 hp Vanguard by Toyota engines, 12-gallon gas tank, 24-gallon diesel tank, a 500-gallon steel spoils tank with a Gardner Denver vac blower, Colt 4-ton hydraulic dump and 24-inch opening rear hatch. They have a 5- by 16-foot diamond plate steel deck with dual 7,000-pound-rated axles with electric brakes, and carry a 200-gallon water tank. 800/624-8186; www.hotjetusa.com.



Hot Jet USA

GORLITZ SEWER & DRAIN MODEL GO 1500A SERIES

The **Model GO 1500A Series** jetter from **Gorlitz Sewer & Drain** has a functional frame construction with a carrying handle, reel accessory tube, retractable pull handle and phenolic 4-inch wheels for easy transportation to the job site. All models come with a custom-built, dual-capacitor 2 hp electric motor drawing 19.8 amps at full load. The duplex ceramic plunger pump with dual pulsation will generate more than 1,500 psi at 2.1 gph to clear tough stoppages or open frozen pipes. The unit is supplied with one 1/8-inch by 50-foot-long trap hose to clear drainlines from 1 1/2 to 3 inches in diameter. The hose and reel connections are provided with quick-disconnect fittings to simplify operation. The reel accessory tube accepts an optional hose reel for compact hose storage and operation. 562/944-3060; www.gorlitz.com.



Gorlitz Sewer & Drain

JETSTREAM TWINFORCE

The **TwinForce** dual-pump 650 hp water-blast unit from **Jetstream** only requires one vehicle to transport a two-unit machine. The dual slave control panel enables operation of both units at a single location, as well as individual operation of both units at different pressures and speeds, either simultaneously or as a backup. Higher flow rates are achievable when units are combined. It is built around the efficient and easy-to-use UNx fluid end water-blast system. It functions as a large-capacity 650 hp unit, a single 325 hp unit with the second unit used as a backup, or as two independently run units. The versatility provides assistance to any application. 800/231-8192; www.waterblast.com.



Jetstream

RELIABLE PUMPS 610 DT

The **610 DT** water blaster from **Reliable Pumps** can be used for high-pressure cleaning on ship decks, runways, storage tanks and concrete stripping. It is an efficient and safe alternative to sandblasting, and provides a less labor-intensive cleanup and a smooth profile on the finished surface. Waterblasting can be used at various pressures depending on the application and time a job needs to be finished. Pressures range from 5,000 to 40,000 psi with spinning nozzles or with fixed tungsten-carbide tips. 800/801-6993; www.reliablepumps.com.



Reliable Pumps

RIDGID KJ-3100

The **RIDGID KJ-3100** portable water jetter has 3,000 psi of working pressure and 5.5 gpm of flow for fast, effective cleaning of large commercial and industrial lines. The jetter propels a flexible and lightweight hose through 2- to 10-inch lines, blasting through sludge, soap, grease and sediment blockages. As the hose is pulled back, it power scrubs the line, flushing debris away and restoring drainlines to their full, free-flowing capacity without the use of chemicals. Pulse action also allows for easy negotiation of difficult bends and traps. It has a removable hose reel and triplex pump with corrosion-resistant, forged brass head and comes on a two-wheeled cart



RIDGID

CONTINUED >>

that easily fits through standard-size doors and negotiates tight turns with ease. 800/769-7743; www.ridgid.com.

VAC-CON HOT SHOT

The Hot Shot high-pressure water jet machine from Vac-Con is designed for removing stones, bottles, cans, grease, sludge and other debris from sanitary sewer and/or storm drainlines. Engineered for one-person operation, all high-pressure water and hose reel controls are located at the front of the machine for ease of operation and increased safety. Models are available with 1,000- and 1,600-gallon water tanks. Options include variable flow, articulating hose reel, polyethylene water tanks, 30 gpm at 3,000 psi water pump system, auxiliary engine or hydrostatic drive, cold weather recirculation system, side-mounted toolboxes, air purge system, hose footage counter, arrow board, strobe lights, inspector cam, high-pressure spray bar, hose rewind guide, 600 psi hand-gun system with 25 feet of hose and a selection of nozzles. 855/336-2962; www.vac-con.com. **C**



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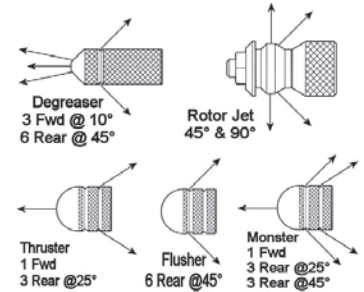


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- Option 2: upgrade to 130' Cable & Reel w/Meter Counter



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FB-PIC3288T/3488T

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- Crawler for easier push



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Hydroexcavation and Industrial Jet/Vac Services, Sewer Nozzles

By Craig Mandli

COMPACT JETTER HELPS COMPANY OVERCOME THE HASSLE OF CITY PARKING

PROBLEM

Bob Oates Plumbing, Sewer and Rooter, located in Seattle, Washington, had regular issues working in urban areas with limited parking space.

SOLUTION

The company began using the Brute Jetting System from JETTERS NORTHWEST to augment a fleet of the larger trailer jettets. “The Brute Jetting System allows me to pull up with one vehicle and eliminates the need to disconnect a trailer and park the service van elsewhere,” says Bob Oates. The unit may be mounted in a truck or van and produces 12 gpm at 3,000 psi.



RESULT

Oates is now able to “save on the initial costs of building a custom skid-mounted jetter and time on the job site.” 877/901-1936; www.jettersonorthwest.com.

CUTTER REMOVES ROOTS FROM CLOGGED CLAY SEWER LINE

PROBLEM

A camera inspection revealed that backups at a residence in Sarasota, Florida, were caused by heavy root intrusion in the line. Roots from nearby trees grew into the joints and cracks, blocking the flow. The pipes ran under hilly terrain from the home’s clean-out in the yard to the city sewer main. Not only were the pipes located a few feet below grass and trees in the customer’s yard, but also the neighbor’s yard.



SOLUTION

Using the Nu Flow Micro-Cutter, Specialized Plumbing Technologies was able to clean more than 150 feet of 4-inch sewer pipe. The system rotates at approximately 2,000 rpm and will negotiate turns of 90 degrees in pipes down to 2 inches in diameter. It runs at 40 cfm and allows for multiple cutting heads to be attached.

RESULT

The company successfully cleaned the sewer line using existing access points, without the need to dig up the customer’s or the neighbor’s property. It then installed the Nu Drain Pull-in-Place structural liner to prevent future root intrusion. 905/433-5510; www.nuflowtechnologies.com.

JETTER PAYS FOR ITSELF ON FIRST JOB

PROBLEM

An 8-inch sewer line under a newly constructed road in North Carolina was installed without proper sequencing. Bret Reece and his team from RLT Construction surveyed the line, and realized that it was full of construction debris.

SOLUTION

Reece brought in his Warrior trailer jetter from Spartan Tool to clear the line. Using the jetter, he was able to clean the whole line, which included half a mile of “road junk,” including stones, dirt and chunks of concrete. Spartan trailer and skid-mount jettets can be used in pipe sizes starting at 3 inches with the Model 738 to 36 inches with the high-flow Ultimate Warrior.

RESULT

Once he cleared the line, Reece sent pictures of the clear line to the state department, highway department and water department.. They were all pleased with the results. “With this one job, the Spartan Warrior paid for itself,” he says. 800/435-3866; www.spartantool.com.

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PRODUCT SPOTLIGHT

New Brute Jetting System offers several upgrades

By Luke LeNoble

The Brute Jetting System from JETTERS NORTHWEST features a modular frame design that enables the unit to be configured as a portable jetter or a mountable-skid jetter.

Available in two models, the 3012 produces 12 gpm at 3,000 psi and comes with 300 feet of 1/2-inch hose. The 4009 model produces 9 gpm at 4,000 psi and comes with 300 feet of 3/8-inch hose.

“It was designed as a modular system that can grow with a plumbing company’s business,” says John McBride, operations and production manager at JETTERS NORTHWEST. “It can be purchased as a portable and later converted to a mounted unit, or vice versa, depending on how people want to use it. The one thing that makes it unique is its adaptability for different purposes.”

The modular frame features steel construction, powder-coat finish and stainless steel control panel located below the hose reel. It contains all controls for jetter operation, including engine start/stop, engine throttle, hour meter, pressure adjustment, flow on/off, adjustable pulsation control and pressure gauge.

“The unit is designed to feed from a larger tank or from its own on-board tank, so the process of converting it from a portable to a mounted unit is basically removal of the wheel brake and addition of the exhaust deflector, pulling the wheels and axles off to expose the mounting holes, and then connecting to a larger tank if desired.”



The system includes a 12-gallon water tank, V-Twin-cylinder Subaru engine and Udor Super-Duty G-Series pump. Options include a propane-powered model and either a 12-volt rewind reel or a hand rewind reel. Wireless control of water flow and engine start/stop is also available on the Brute Jetting System.

“Some of these options have to be configured at the time of purchase, and others can be retrofitted or changed down the road. Really, it avoids sometimes having to buy a second jetter,” McBride says.

Sales director Steve Jones says the system is ideal for someone who’s just starting out cleaning residential or commercial drainlines.

“He doesn’t have to dedicate a truck to it,” Jones says. “He can load it in when he needs it, load it out when he doesn’t. But as the jetting part of his business grows, and he decides he wants to dedicate a jetting truck, then he can go to the mounting unit that he wants without buying an additional or new piece of equipment.” 877/901-1936; www.jettersnorthwest.com.



1

1 VERMEER HORIZONTAL DIRECTIONAL DRILL

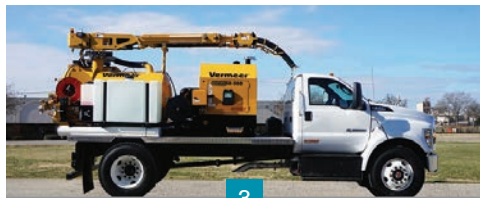
The D10x15 S3 Navigator horizontal directional drill from Vermeer is designed for utility installations. The drill is 12 1/2 feet long and is equipped with a 60 hp Deutz TD2.9 Tier 4 Final engine. It is capable of thrust/pullback to 10,000 pounds with a maximum torque to 1,500 ft-lbs, maximum spindle speed to 220 rpm and maximum carriage speed to 208 feet per minute. The drill’s low sound levels help reduce noise and disturbance on residential job sites and enable easier communication between crew members. 641/628-3141; www.vermeer.com.



2

2 WATER CANNON ELECTRIC JETTING PACKAGE

The electric-powered jetter package pressure washer from Water Cannon delivers 2 gpm and 1,500 psi. The low profile and compact hand-carry version includes a 150-foot by 1/4-inch Piranha jetter hose, a 50-foot by 1/8-inch trap hose, ball valve, pulsation valve on demand and four stainless steel jetter nozzles. The pressure regulator can be adjusted from 150 to 1,500 psi. 800/333-9274; www.watercannon.com/catalogrequest.aspx.



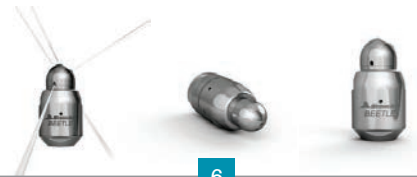
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5



6

3 MCLAUGHLIN VERMEER ECO TRUCK SERIES

The Vermeer Eco truck series by McLaughlin is a compact vacuum excavation system with a focus on improved fuel efficiency. Trucks feature 49, 85 or 99 hp auxiliary engines, 500-gallon spoils tanks and the ability to be mounted on new or used truck chassis. 800/435-9340; www.mclaughlinunderground.com.

4 RIDGID STRAPLOCK PIPE HANDLE

The RIDGID StrapLock pipe handle is designed to simplify the installation, maintenance and handling of large-diameter plastic pipe. The handle grips plastic pipe from 3 to 8 inches in diameter with its rapid size adjustment. Ideal for use in tight quarters and wet conditions, the handle allows force to be applied in all directions. 800/769-7743; www.ridgid.com.

5 KAMAT STEEL SURFACE CLEANER

The SHC 3000 ship hull crawler from KAMAT is designed for remotely cleaning and removing paint from ship hulls, tanks and other steel structures. The crawler moves with a pneumatic chain drive and is secured with magnets. Remote control rotating nozzles are capable of about 4,000 psi. www.kamat.de/en.html.

6 STONEAGE BT25 PIPE CLEANING NOZZLE

The BT25 Beetle rotary tool from StoneAge is designed to clean, polish and unplug small pipes and tubes with elbows. The Beetle is made from stainless steel and measures 1 by 1.9 inch. 866/795-1586; www.stoneagetools.com. **c**

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COLE Publishing editor Ed Wodalski passes away

Ed Wodalski, longtime contributor and editor with COLE Publishing, passed away suddenly on Sept. 21. He was 64. In addition to his writing contributions, Ed held many roles at COLE, including primary proofreading and coordinating national photo shoots and assignments. Most recently, he was the print and digital editor for *Plumber* magazine, and also oversaw the product and industry news for nine COLE publications. "Ed was not only a loyal contributor to the COLE team, but a mentor, family man and friend. He will be deeply missed," said Jeff Bruss, president of COLE Publishing. Ed is survived by his wife, Dawn; son, Michael; daughter, Nicole; and three grandchildren.



Ed Wodalski

Aclara acquires Smart Grid

Aclara acquired the Smart Grid business of Tollgrade Communications. Included in the acquisition were the LightHouse Sensors and Sensor Management System software with Predictive Grid Analytics and other intellectual property.

Avanti International celebrates World Trenchless

In recognition of World Trenchless Day, Sept. 22, Avanti International presented the webinar "Re-Living 50 Years of Municipal Grouting and WHAT'S NEXT." Presenters included Harold Kosova, National Power Rodding; C. Vipulanandan, CIGMAT; Ted DeBoda, NASSCO; James Shelton, ARCADIS; Daniel Magin, Avanti International; Marc Anctil, Logiball; Ron Manestar, Aries International; Pete Fleetwood, Bio-Nomic Services; Mark Schneider, CUES; and John Manijak, Michels Pipe Services.

Continental ContiTech expands partnerships

ContiTech will supply industrial hoses, hydraulics and power transmission belts to Applied Mexico and subsidiary RODENSA Mexico. Applied Mexico is one of the largest industrial distribution networks in Mexico with 22 facilities.

Toro Company elects CEO

The Toro Company elected Richard M. Olson CEO. He is a 30-year veteran of the company, beginning as a manufacturing process engineer in 1986.

TRIC Tools hosts South American engineers

TRIC Tools hosted four engineers from the Sedapal Water & Sewer Authority, the Peruvian state-owned water utility in Lima. TRIC introduced the group in June to its manufacturing process and new municipal pipe bursting developments. Sedapal is executing a \$3.25 billion dollar plan to bring 100 percent water and sanitation coverage to Lima and neighborhood areas.

Jetstream of Houston celebrates 40th anniversary

Jetstream of Houston celebrates 40 years in the industry this year. Since its founding in 1976, the company has focused on providing customers worldwide with a range of high-pressure waterblasting equipment, trailer-mounted pumps and accessories.

RapidView appoints sales manager and training expert

RapidView IBAK North America named Richie Notz Southern U.S. and U.S. Caribbean Islands sales manager. Notz has past experience in customer training and operation of IBAK equipment. Chad Pugh was appointed training and installation expert. Pugh has 24 years of experience in the manufacturing industry.

Hydra-Flex finalist in Minnesota Manufacturing Awards

Hydra-Flex was a best-in-class finalist for the Minnesota Manufacturing Awards. The company is part of the Small Company Class for businesses with less than 50 employees.



Federal Signal expands service center

Federal Signal Environmental Solutions Group completed the expansion of its FS Solutions service center in Leeds, Alabama. The facility houses all operations related to parts, Jetstream support, blower rebuild and shipping. The expansion includes a truck loading dock and improves efficiency of inventory handling, shipping and parts pulling by 25 percent.

Isuzu opens Center of Excellence training facility

Isuzu Commercial Truck of America opened its first Center of Excellence in northeast Pennsylvania. The complex includes a 100,000-square-foot parts distribution center and a 30,000-square-foot training and technical assistance facility.

The Work Truck Show sets future dates

The Work Truck Show and Green Truck Summit returns to Indianapolis in 2017 and 2018. The 2017 show will be held March 14-17 at the Indiana Convention Center. Dates for the 2018 show are March 6-9. The Work Truck Show features the latest vocational trucks, vans, vehicle components and equipment on a trade show floor covering over 500,000 square feet. The event includes an educational conference with over 60 sessions designed to help attendees improve operations. **C**

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Honda model WP40X, 8 hp, 4" with hoses. Honda 4 hp, 2" pump with hoses. The Cable Center: 800-257-7209. (CBM)

New F.E. Myers DP80-20 RH Drive - \$13,529; D65-20 RH Drive - \$12,353. Other models available. Cloverleaf Tool Co. 941-739-0707 www.cloverleaftool.com (CBM)

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RIDGID model #300 with stand, RIDGID tri-stand vises, RP 330 ProPress kit. The Cable Center: 800-257-7209. (CBM)

Bosch Brute hammer drill with cart irons. The Cable Center: 800-257-7209. (CBM)

TRAILERS - VACUUM/TANKER

2002 Super Products Camel 3-cubic-yard vacuum trailer with a Roots 412 blower package. (Stock# 0197C) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648) (CBM)

TV INSPECTION



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