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US Hydrovac heavy equipment operator Michael Stidham operates a Tornado F4 Eco-Lite in Greenfield, Indiana, at a job site cleaning around a storm drain. US Hydrovac, based in Indianapolis, is owned by KP Panchal and serves all of Indiana with 40 employees. (Photography by Marc Lebryk)

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An Eye on the Equipment

LAST BIG TRADE SHOW OF THE YEAR IS A GOOD OPPORTUNITY TO FIGURE OUT WHAT YOU MIGHT NEED TO UPGRADE AT YOUR COMPANY

BY CORY DELLENBACH, EDITOR

The warm months are drawing to a close. Now that the job you've been working on all summer is just about done, your jobs sites are likely getting less cluttered. And perhaps your crews are looking forward to a little bit of slow time.

Before you jump right into that rest and relaxation though, there is some work you should do before you start closing the books on this work season. You need to look at where your company is now and what's ahead for the future.

Is there equipment that would have helped your company at a job this year? Is it time to replace that aging directional drill, vacuum excavator or some other piece of equipment? Right now is the time you should be thinking about that while it's still fresh on your mind.

During the slower off-season, go through your equipment and take inventory of the condition it's in, how much you used it and what needs to be done on it.

TAKING A TRIP

If you're wondering what equipment might be out there that could help you and your team, it might be a good opportunity to head to Kentucky at the end of September to check out The Utility Expo.

This unique every-other-year show returns this year to Louisville and it's always a great opportunity for contractors like you to see what equipment is available and even give it a test run. The show has an enormous outside area where demos are taking place consistently. Everything from directional drills, vacuum excavators, traditional excavators, bulldozers and more.

This is the best time to try out that equipment you've been eyeing up and even talk to the experts at those manufacturers to see if it'll work for you.

TALK TO THE PROS

Speaking of talking to the manufacturers. If you're on the fence about a piece of equipment, even after attending the show, it never hurts to reach out to them to see if they do product demonstrations in your area.

Some vacuum excavation manufacturers and others enjoy the opportunity to show what their equipment can do while interacting with you and your team on an actual job site.

Don't be afraid to ask for more information or reach out to other contractors — maybe ones that you don't compete with — and see what they think of that equipment.

MAKING IT A PRIORITY

If you can't make it out to that show, make sure you flip through the pages of this issue and check out the Product Focus and The Latest: Products features so you can read about some of the product offerings that are out there for your company.

Contact information for all of those manufacturers are also listed on those pages with the write-ups.

You need to make it a priority, make it a necessity to ensure your team and your company are getting the best equipment out there to be productive, to be competitive with other service companies and to be the best your team can be.

I'm looking forward to being at The Utility Expo and meeting contractors like you out there. Let me know if you are heading to Louisville at the end of September by emailing me at editor@digdifferent.com.

Enjoy this issue! ▼



DURING THE SLOWER OFF-SEASON, GO THROUGH YOUR EQUIPMENT AND TAKE INVENTORY OF THE CONDITION IT'S IN, HOW MUCH YOU USED IT AND WHAT NEEDS TO BE DONE ON IT.

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MAINTAINING SUCCESS

Scaling an Excavation Business

As your excavation business develops a loyal customer base, your attention may turn toward sustainable scalability. Service businesses face some challenges when it comes to expansion, as so much of their success hinges on relationship-building and word-of-mouth buzz. But there are a few scalability tips that any service company might take to heart.

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Protecting Utility Construction Employees

Several organizations, including the National Utility Contractors Association, recently signed an important agreement to better protect industry employees who perform trenching and excavation work. In this online article, read about the training initiative, which focuses on the four leading construction industry hazards.

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BEYOND STATISTICS

Evaluating Your Safety Culture

For most businesses, having zero injuries is the ultimate safety goal, but this can be very hard to attain, especially when you have hazardous job tasks. Zero injuries do not always tell the tale of a business and its safety culture. Learn more in this online exclusive article.

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The team at US Hydrovac cleans around a structure with a Tornado F4 Eco-Lite in Greenfield, Indiana.



DETERMINED TO SUCCEED

AFTER A SLOW START IN ITS FIRST YEAR, AN INDIANAPOLIS HYDROVAC COMPANY HAS EARNED RESPECT AND EXPERIENCED BIG GROWTH THANKS TO QUALITY WORK AND A DEDICATED CREW

STORY: GILES LAMBERTSON PHOTOS: MARC LEBRYK



“WE ARE PEOPLE-CENTERED. WE WANT TO MAKE CUSTOMERS’ LIVES EASIER AND HELP THEM SOLVE PROBLEMS. THIS IS A RELATIONSHIP BUSINESS.”

KP Panchal

Some companies boom and fade. The fundamentals weren’t there. By comparison, US Hydrovac seems fundamentally sound, with the Indianapolis company’s core values and best practices aligned for success. Plus, its founder is determined to succeed.

How determined? KP Panchal didn’t earn a dime the first year in business in 2018. His two business partners in the startup — Tyler Vuurman and Dwight Cliff — had other primary jobs, but Panchal quit his job and went all in at US Hydrovac. During the first year, the then-28-year-old Panchal paid two hydrovac truck operators \$27 an hour, a minimum of 30 hours a week — mostly to sit at home because there were no jobs for them to work.

“We did everything we could to drum up business. We beat the pavement, went to offices and sent out mailers. You can imagine,” the company president recalls. He could have become discouraged, yet didn’t give up, and his persistence finally paid off: A contractor called.

Globe Asphalt, a 90-year-old family-owned company, was paving a school parking lot in Indianapolis. The lot bordered an electric transformer station and the contractor was concerned about what lines might underlay the surface adjacent to it. Panchal’s idle crew went to work, digging down a foot or two and reassuring Globe there was no danger.

“We had a new customer!” Panchal says. “So, we went around saying, ‘Hey, we worked for Globe Asphalt and we could do the same for you.’” In two short weeks, a second customer, a telecom contractor, called about some

hydrovac work on a downtown project. “That was our first large customer, bringing in \$25,000 in revenue. Then we got a third customer, and our clients became larger and the jobs more complex.”

HONORING HIS FATHER

Panchal’s father was a first-generation Indian-American. Panchal himself was born in India, moved to the United States with his family when he was three years old and grew up in southern Indiana. His father was a contractor specializing in renovating motels. His son learned construction techniques from him.

“I grew up working with him on jobs. At 16, I ran a crew or two. After high school, I worked with him for four years,” Panchal says. An accident ended that. His father fell off a roof during a construction project and passed away after eight days in the hospital.

It was a pivotal moment for the young Panchal. In Indian culture, the oldest son becomes the head of the family and suddenly the 22-year-old Panchal had new responsibilities. He decided then to honor his father and pursue a career he had come to enjoy. “I was good at construction, very good. I wanted to do it professionally, not just a small family-run business.”

He went to community college and then a four-year college and earned a degree in construction engineering and management technology. His aspiration was to become a general contractor.



Jake Whitney, camera division lead; KP Panchal, president; Codi Berger, operations coordinator; Wayne Vaught, mechanic; Scott Reeder, vice president; Tyler Vuurman, vice president; Marianna Depinet, admin support specialist; and Anjali Panchal, chief financial officer.



Heavy Equipment Operator David Beeman Fonseca uses a KAISER PREMIER EcoCycler to jet a storm line in a neighborhood for a post-clean inspection.

After college, he worked for construction companies as an estimator and came to notice something: the increasing use of hydroexcavation on job sites. So, he and two college classmates who had noticed the same trend formed US Hydrovac. The first challenge: They needed a vac truck.

“It’s a funny story, looking back,” Panchal says. “I located a local dealership outside Indianapolis and called the salesman. I got no answer and no response.”

GETTING SERIOUS

Eventually, Panchal was taken seriously, familiarized himself with vac technology and rented a Vactor Prodigy, a midsize unit with 6-cubic-yard capacity, and an HXX model with 12-cubic-yard capacity.

US Hydrovac
Indianapolis,
Indiana



<https://ushydrovac.com>

OWNER: KP Panchal

YEARS IN BUSINESS: 5

SERVICES: Hydroexcavation,
pipeline cleaning/jetting,
CCTV camera inspection

SERVICE AREA: Indiana

EMPLOYEES: 40

By then, Panchal had moved around some, but he returned to Indianapolis to start the company. His return wasn’t from nostalgia. “We understood the market here,” he says. “It was a market big enough to have demand for a vac company, yet affordable enough to let us get off the ground.”

That was five years ago. Today, the 32-year-old company president is presiding over a mushrooming business. “When you start a business, you make projections,” Panchal says. “Our projection was we would have five trucks after five years. We have 15-plus vac trucks and four camera units. That blows my mind.”

Twelve are owned outright. The fleet consists of products by Vactor, Tornado (the Canadian brand) and some other suppliers. Panchal became acquainted with the Tornado equipment line at a trade show and bought a 12-cubic-yard truck there.

“The Tornado trucks are very reliable — they can run extended periods without downtime — and they don’t contain proprietary components so when you do need a fix, you can buy parts off the shelf and complete the fix in-house,” Panchal says.

EXPANDING SERVICES

For the first two years, US Hydrovac offered only vacuum excavation services — on-demand hydrovac digging. (The company can air excavate, too, but the clay soils of the region yield better to water under pressure.) Small and midsize contractors would call on the company as needed rather than maintain their own vac unit. By year three, though, Panchal wanted to expand the company’s proposition.

“I was looking for what other things we could do to complement what we already were doing. I got my PACP certification in year two and we bought a small camera,” Panchal says. “We didn’t use it, but in year three we got good at it and started marketing our camera inspection work. We now have several jettets and cameras constantly working.”

This is where Jake Whitney enters the picture. Vuurman, a childhood friend and vice president of US Hydrovac, asked Whitney to come to work. At the time, Whitney was scouting schools in pursuit of a doctorate in physical therapy. Persuaded to change his career plans — having two children at home helped convince him to forego more schooling in favor of a job — Whitney was hired to operate the company’s inaugural camera inspection service.

“Within about a year, we got a second unit and I came out of the field completely and began estimating jobs,” Whitney recalls. The camera inspection division swelled rapidly. “We went from two camera crews to four in eight

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PACP Camera Operator Freddy Garcia operates a Rapidview IBAK HD Mainline System televising a neighborhood for a post-clean inspection.

months, And then a fifth. Right now, I'm running four camera and cleaning crews, but we have six jetter trucks so we could be up to six camera crews soon." Last year at one point, the division was operating shifts 24 hours a day.

The company's CCTV customers generally are a mix of pipe rehab outfits and new construction contractors and include some of the largest firms in the country. The inspection work is in pipes ranging in diameter from six inches to 10 feet, mostly sanitary and storm sewers.

The company's preferred robotic camera and software system is Rapid-View IBAK, an Indiana product. Hoosier pride is not why it's the company's top choice, says Whitney. "It's cutting edge. The technology and quality are unmatched. It is like it's a Mercedes and the others are Fords."

The company has on order an IBAK MicroGator reinstatement cutter unit, which combines camera inspection with grinding/cutting of pipeline defects and obstacles. US Hydrovac will be the first company in Indiana to have the state-of-the-art camera/cutter.

"We can cut all kinds of stuff out of the pipe with this," says Whitney. He notes that some liner companies use cutters to open holes in the liner at pipe junctions. "But the systems they use are not nearly as sophisticated as this. They use a cutter and a separate camera. Ours is both in one."

BRINGING EXPERIENCE

Another key member of the US Hydrovac team is Jon Crews, its operations manager. He brought to the company 15 years of experience operating a hydrovac unit, much of it in reclamation work. Panchal offered Crews the chance to join the company as a "truck operator-slash-operations manager" and Crews came aboard. He doesn't regret it.

"KP has been a great mentor to me," says the 37-year-old manager. "He took the time to train me and to send me to multiple leadership classes." Panchal put together an office team and Crews began to assemble field staff. The company operates today with about 40 employees.

The company now operates from its "fourth and final shop," according to Panchal. The firm



From left, Tyler Vuurman, vice president; KP Panchal, president; and Scott Reeder, vice president, discuss project plans at the start of the workday.

Leading the Next Generation

KP Panchal has his eye on the generation just now entering the workforce. The founder and owner of Indianapolis, Indiana-based US Hydrovac wants them to succeed and knows from experience that they can.

Panchal worked alongside his father in the construction trade as a young man. When his father unexpectedly died, Panchal took stock of where he was and kickstarted a career. He got a construction degree and went to work in the industry for other companies before succumbing to an urge to own and operate his own business. It was a long shot, but US Hydrovac now is one of the fastest growing construction companies in the country.

Panchal encourages young people to jump into the trades, too, to earn a good living and to take pride in it. "A dream of mine is getting younger people into construction," he says. "Too often they see it as manual labor that people look down upon. I say, 'Hey, there are thousands of careers in construction in which you can make a solid six figure income.'"

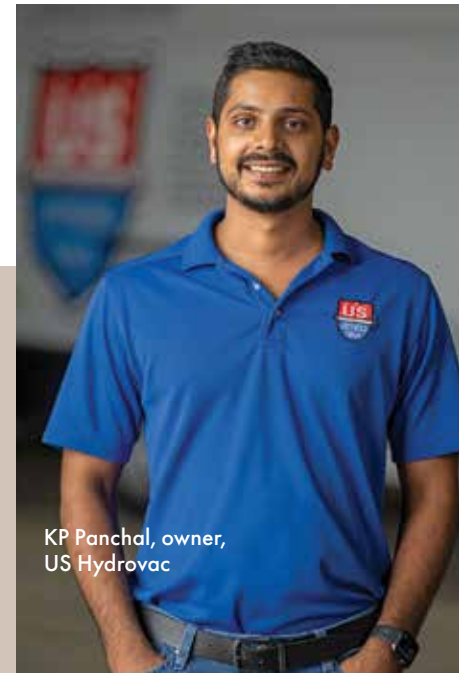
He cites a hydrovac truck operator in his company who, at age 22, made over \$100,000. Most of his field crews are under 30 years of age. "You don't have to go to college and get a degree. You can, but you

don't have to. You can be a professional and make good money for your family in the trades."

Operations Manager Jon Crews says the company's training is aimed at everyone getting on the same page, learning the company's core values and understanding what's expected of them and what they can expect in return. "This latest generation is a little different. You have to learn how to lead them and keep them motivated, but we have a great group of people here."

"We have given so many people once-in-a-lifetime opportunities here at the company," says Panchal. "That's what's valuable to me. I want to see people have a good life. I want to help them have a good quality of life."

And US Hydrovac will make money in the process.



KP Panchal, owner, US Hydrovac

began working out of a 2,500-square-foot facility before moving to an 8,000-square-foot address, then a 12,000-square-foot location. Six months ago, it purchased and moved into an eight-acre property with 40,000 square feet of shop and warehouse and 5,000 square feet of office area.

Crews says the expansive facility mirrors the rapidly maturing operation. The speed of the company's growth has forced company executives periodically to re-adapt the company structure. "When you grow so fast, the structure put in place what seems like two minutes ago suddenly isn't sufficient for 10 trucks. But we're in a good position now."

The operations manager says the company has in place "processes that are sustainable so we can stay ahead of things instead of reacting to them." It's all in the "metrics," he adds, the science of measuring what is happening so decision-makers can make informed decisions.

US Hydrovac has gone from that initial daylighting job in a school parking lot to completing a 10-month-long project in Louisville, Kentucky, where the city's sewer department was rehabbing a failed 96-inch brick sanitary sewer line. It served multiple hospitals and critical businesses and could not be shut

"HAVING A FEW MAIN CUSTOMERS IS A RECIPE FOR DISASTER. IF EVERYTHING IS IN ONE BASKET AND THEN THE BASKET GOES AWAY, THAT'S A DISASTER."

KP Panchal

down for renovation. Three trucks and eight people were on the job in Louisville those months, inspecting, cleaning, clearing away debris. The job produced several millions of dollars in revenue for the company.

The Indianapolis firm has undertaken such projects as running its 6-inch hoses 800 feet for a long-distance hydroexcavation. Its camera inspection team has peered into lines and found such items as handguns and, in another instance, bagged drugs, which they turned over to Indianapolis law enforcement officials.

The company has a "three-P" mission statement that encapsulates Panchal's idea of what a hydrovac company should be about: preserving the environment, protecting utility assets and preventing service interruptions.

A BOLD FUTURE

The future? Panchal has looked into it and says, with a small laugh, "We want to take over the Midwest." A bold goal considering the largest hydrovac company in the country is headquartered in Indianapolis. "We don't plan on going public. No outside investment. We want to be a regional player. My vision is to be an industry leader in the utilities market."

The main ingredients to reaching that goal are having capable people in key positions (including his wife Anjali, who is the company's chief financial officer) and building out clientele in different industries and of different sizes. "Having a few main customers is a recipe for disaster. If everything is in one basket and then the basket goes away, that's a disaster," Panchal says.

Panchal doesn't want US Hydrovac to offer too many services, preferring instead that it be expert in a few things. He already is planning for satellite offices, including in Ohio and Kentucky. And the company founder vows to maintain his focus on people.

"We are people-centered. We want to make customers' lives easier and help them solve problems," Panchal says. "This is a relationship business. When a customer is disappointed, we take that very seriously." ▼



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Tips to Preventing a Toxic Environment

FOLLOW THESE ACTION STEPS TO GET YOUR PROBLEM CREW MEMBER BACK ON TRACK MAKE THOSE AROUND HIM OR HER HAPPY CAMPERS

BY KEN WYSOCKY

Few workplaces are total negativity-free zones. Even the best places to work can suffer from the occasional corrosive effects generated by drama queens, whiners, gossipers and bullies.

But all too often, managers go into denial mode when they encounter such behavior. They either don't know how to confront the problem or figure that it's just impossible to change peoples' behavior and thus soldier on, which only makes other employees resentful about the lack of action. Or perhaps the problem employee is, ironically enough, a top performer, which gives the manager little motivation to confront the issues at hand.

The end result? Good employees leave, unable to bear the toxic environment created by a problem employee. Morale sinks. Productivity declines. And word gets around, which can derail employee recruiting efforts.

"Negativity is counterproductive in almost every way," says Marie G. McIntyre, a nationally known management consultant, employee coach (www.yourofficecoach.com) and the author of *Secrets to Winning at Office Politics: How to Achieve Your Goals and Increase Your Influence at Work*. "The shame of it is that the employees that leave usually aren't the negative ones. So the irony is that by not acting on the problem, you end up keeping just the complainers and whiners."

WHAT'S A CONTRACTOR TO DO?

One of the biggest culprits in this vicious circle is managers ill-equipped to handle problem employees for lack of training, or that are so weak-willed that they'd rather just avoid confrontation. "There are just too many wimpy managers out there," McIntyre asserts. "They're usually nice people, but they're afraid to use the authority conferred by their position when they need to."

Some small-business owners or managers even inadvertently encourage further bad behavior. As evidence, McIntyre recalls a manager who complained that she often had to do the work of an employee who was a total on-the-job slacker; she was also upset because she couldn't convince her boss that there was a problem. "Of course she couldn't — all the work was still getting done," McIntyre says. In another instance, a manager told her that he actually let a problem employee vehemently complain about various and sundry issues for 1 1/2 hours.

"That only encourages someone to complain even more," she points out. "You should always listen to your employees, but once you get tired of hearing them complain, you've probably been listening to them too long. You've got to figure out a better way to have a conversation."

To deal with negative employees, McIntyre suggests adopting six strategies aimed at changing behaviors and creating a more positive workplace for other employees:

- **Stop rewarding behavior you don't want.** See examples above.
- **Address problems as they arise.** If you don't, odds are they'll turn into something even worse. And failure to deal decisively with problem employees only weakens other employees' faith in your managerial skills.
- **Be a coach, not a critic.** "Coaching is one of the most important skills a manager needs," McIntyre says. "You're responsible for getting results

from employees, just as the coach of a sports team is responsible for getting results from players. But few people are born to do this — it usually requires training."

- **Describe problem behaviors specifically.** Just telling someone that they're negative is too general; they may not know what that means, which prevents them from doing anything about the problem at hand. As such, it's critical to provide specific examples as well as the resulting negative side effects.
- **Focus on the business angle.** Don't center the discussion on personalities; that's a no-win proposition. Instead, point out how certain behaviors may damage relationships with customers, for example, or curtail teamwork and collaboration with others on your crew.
- **Keep your cool.** If you get angry or upset during a meeting, you're acting like a child, too. "You need to snip the wires to your hot buttons," McIntyre suggests. "You need to act like an adult and deal with things in an adult manner. If they push your buttons and you react, you've lost control of the situation."

WORK TOGETHER

Most of these strategies can be employed during what's known as a two-way problem-solving discussion. "It's not a forum for criticizing or lecturing," McIntyre explains. "It's about sharing observations about what you've noticed and putting them in the context of business issues — don't make it personal."

"THE SHAME OF IT IS THAT THE EMPLOYEES THAT LEAVE USUALLY AREN'T THE NEGATIVE ONES. SO THE IRONY IS THAT BY NOT ACTING ON THE PROBLEM, YOU END UP KEEPING JUST THE COMPLAINERS AND WHINERS."

Marie G. McIntyre

The meeting should include an explanation of what things have to change; setting clear expectations is critical. Then develop some strategies that can be used to make things different going forward. It's also essential for you and the problem employee to agree on these action steps as well as arrange follow-up meetings where you can discuss how things are progressing.

"Follow-up is critical," McIntyre says. "Too many managers view these coaching sessions as one-and-done things. But people just don't change their behaviors that easily or quickly, so follow-up is essential." Furthermore, a lack of follow-up may prompt the employee to think you don't take the issue seriously, which removes any incentive to change.

What if this strategy doesn't work? Even closer supervision and more frequent coaching sessions may be required. And if things don't improve after that, and the issues are serious enough that the person can't get the job done and hampers others in your company from doing so, too, more drastic action is required. "Maybe they're just not a good fit for the job," McIntyre says. ▼



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MOOLAP, VICTORIA, AUSTRALIA

Company owner Jason Middle founded Dig Safe Geelong in 2015 to provide hydroexcavation services around Australia. The company offers nondestructive digging, hydro and air excavation, waste removal, cleaning, ground penetrating radar and vacuum truck services for a wide range of international companies, local organizations and independent contractors. Its primary areas of work include the Melbourne metro areas as well as regionally in Ballarat and Bendigo, Dandenong and many other Victorian locations. The truck shown here is one of the company's Spoutvac 3700 municipal combination trucks. The unit has a 9-cubic-yard debris tank and carries about 5 cubic yards of freshwater. It has a Hibon VTB 822.XL blower with matching silencing pack capable of 2,225 cfm. The filtration system is a stainless steel cyclone filter and secondary filter Jurop cage. The jetting system onboard is a Pratisoli MW45 triplex pump that can handle 2,200 psi. More information on the company can be found at www.digsafegeelong.com.au.



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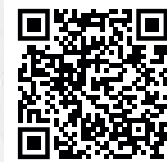


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The Durable Fix

PIPE BURSTING AND GEOPOLYMER MORTAR BECOME BEST OPTIONS FOR MAKING A LARGE SEWER REHABILITATION PROJECT A SUCCESS

BY BRENT KELLER

Well-functioning sewer systems make possible many modern conveniences that are often taken for granted, from personal hygiene to passable roads. Over time, the water and waste these systems handle take their toll, and asset owners must determine which repair options will most effectively balance future reliability with current disruption and costs.

For many larger repair projects, pipe bursting paired with manhole rehabilitation is the most effective approach in the short- and long-term.

INFILTRATION AND INFLOW

Sewer systems are under constant attack. Infiltration — groundwater leaking in through cracks and intrusions; and inflow — stormwater flowing rapidly into a system after a weather event — both take their toll on infrastructure and are accelerated by extreme weather events, ranging from blizzards to hurricanes. Sewer systems include countless connections, all of which are especially vulnerable to infiltration and inflow.

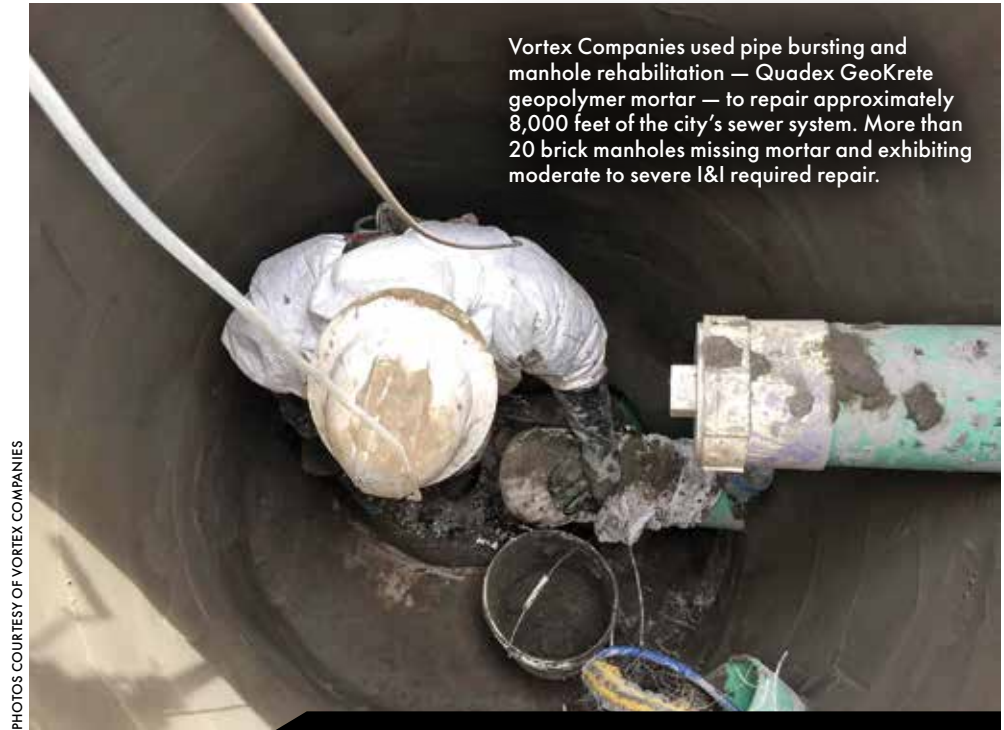
Water isn't the only challenge. As waste deteriorates, it produces hydrogen sulfide gas, which is flammable and highly toxic. Since H₂S is heavier than air, it often collects in sewers and manholes, eating away at infrastructure and posing risks to the people who maintain and repair those systems. In addition to water and waste, pipes experience additional stress from the ground itself. Certain types



The pipe bursting process took place during a sewer system replacement project in a community southeast of Houston.



The pipe bursting approach enabled new HDPE pipe to be installed without damaging homeowners' properties.



PHOTOS COURTESY OF VORTEX COMPANIES

Vortex Companies used pipe bursting and manhole rehabilitation — Quadex GeoKrete geopolymer mortar — to repair approximately 8,000 feet of the city's sewer system. More than 20 brick manholes missing mortar and exhibiting moderate to severe I&I required repair.

PROJECT: Repairing a municipality's Sewer System southeast of Houston

CONTRACTOR: Vortex Companies

EQUIPMENT: Quadex GeoKrete geopolymer mortar
Vortex Companies
855-949-3441, www.vortexcompanies.com

RESULTS: Pipe bursting combined with manhole rehabilitation was employed to repair approximately 8,000 linear feet of the city's sewer system

DOWN & DIRTY

of soil are less stable than others, which impacts underground structures as shifting occurs.

While sewer repairs are inevitable, accessing pipes can create new challenges. The traditional open-cut repair method requires direct vertical access to pipes through the roads and ground that cover them, which results in roadway closures and significant disruption for businesses and residents. Open-cut repair also exposes sewer contents to the air, raising the risk of contamination.

TRENCHLESS REPAIR WITH PIPE BURSTING

Trenchless technology approaches, such as pipe bursting, transform the repair process by allowing horizontal access through a single point or limited number of points of access. With pipe bursting, a small entry point is made

THE PIPE BURSTING APPROACH NOT ONLY EXTENDED DESIGN LIFE AND RESTORED THE SYSTEM'S INTEGRITY, BUT ALSO SIGNIFICANTLY REDUCED THE TOTAL TIME REQUIRED FOR THE PROJECT.

in an easily accessible area rather than a paved surface, and a downstream manhole is established to run a cable through the line. The existing pipe bursts as a new high-density polyethylene pipe is pulled in, eliminating the need to trench the entire pipeline.

Replacing old pipe with new HDPE creates a fresh 50-year design life and a “monolithic” pipe without connection areas that can be vulnerable to water infiltration. Pipe bursting addresses the entire system, not just mainlines, and is one of the few technologies that can add capacity via trenchless methods. This is advantageous for communities that have significantly grown since the original pipes were laid in place.

When performing pipe bursting, it's also important to rehabilitate manholes which can continue to be a source of I&I once the new pipe is installed. As traditional manhole materials age, they become compromised and leak. While the new pipe will be impenetrable, surrounding manholes in a state of disrepair can remain a source of leaks. Eliminating all sources of infiltration for a seamless system necessitates manhole rehabilitation as part of the process.

8,000 FEET IN THREE MONTHS

A municipality southeast of Houston recently embarked on the process to repair and rehabilitate its sewer system. Years of typical use magnified by weather events including hurricanes and tropical storms had taken a toll on the system's clay and reinforced concrete pipes and brick manholes. However, a traditional open-cut repair would have required access through backyard easements, affecting a large number of potentially unhappy homeowners by disrupting yards, fences and landscaping.

Pipe bursting combined with manhole rehabilitation was employed to repair approximately 8,000 linear feet of the city's sewer system. Using the pipe bursting approach enabled new HDPE pipe to be installed without damaging homeowners' properties — only a simple reconnection of their service line to the new pipes was necessary, which also allowed any leaks in the old connections to be addressed.

Additionally, more than 20 brick manholes missing mortar and exhibiting moderate to severe I&I required repair. Quadex GeoKrete geopolymer mortar (Vortex Companies) was used to restore structural integrity, protect against corrosion and eliminate groundwater infiltration.

The pipe bursting approach not only extended design life and restored the system's integrity, but also significantly reduced the total time required for the project. The project was completed in approximately three months — an open-cut repair would have required at least twice as long to finish. Despite the extensive repairs, the refreshed system maintained its previous flow capacity and community disruption was minimized.

Asset owners have many trenchless repair options available to them. Pipe bursting combined with manhole rehabilitation is an advantageous and durable solution that can upsize pipes while delivering a durable structure. As this approach is minimally intrusive

to the surrounding community, it is an excellent option to rehabilitate aging infrastructure.

ABOUT THE AUTHOR

Brent Keller is senior regional vice president, southwest / Rockies for Vortex Companies. His trenchless technology and field expertise span eight years. ▼

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Dig These New Products at The Utility Expo 2023

BY CRAIG MANDLI

The Utility Expo is the premier event for utility professionals and construction contractors to gain comprehensive insight into the latest technologies, innovations and trends affecting their industry. This year's

event, slated for Sept. 26-28 in Louisville, Kentucky, promises to show off some of the finest new products on the construction market. Below is a preview of some of the newest products that will be highlighted at this year's show.

BOSS Industries REVOLT

The **REVOLT** from **BOSS Industries** is a revolutionary design that takes advantage of everything a contractor likes about their vehicle and allows them to produce power in a stationary mode to perform the work or play needed. There are no batteries or engines to maintain.



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[See ad on page 7](#)

800-635-6587; www.bossrevolt.com; Booth E1318

CrewPlex DR10 All-In-One Wireless Headset

The **CrewPlex DR10 All-In-One Wireless Headset** combines the great sound quality and excellent performance of the proven DR10 system with the comfortable fit, exceptional noise isolation, and flip-up microphone muting technology of the Smart-Boom PRO headset, but without the wire. The new headset is available in single and dual-ear models with field-replaceable batteries. Compatible with DR10 beltpacks, users can use a combination of DR10 wireless all-in-one headsets and traditional DR10 beltpacks as part of the same system.



[See ad on page 29](#)

334-321-1400; www.crewcom.com; Booth S3908

Brokk 120DII

Brokk's 120DII remote-controlled demolition machine pairs with the Brokk Vacuum Excavation Kit for improved maneuverability, safety and versatility in tight vacuum excavation applications. At 31 inches wide, 80 inches long and 49 inches tall, it is ideal for tight spaces where truck-mounted excavation systems can't reach. The package includes a bracket mounted on the rear of the machine and on the three-part arm to secure the hose and transport it from the vacuum excavation truck to the excavation site. A specially designed plate attaches to the end of the arm and includes an opening to hold and stabilize the hose's nozzle. Thanks to the quick hitch, the plate can be rapidly removed and switched with another attachment. A range of electric models can also be equipped with the vacuum excavation kit.



800-621-7856; www.brokk.com; Booth N1855

Dynablast

Dynablast is a Canadian distributor for Interpump, Pratisoli water pumps and PA accessories such as valves, lances, guns and nozzles for the past 35 years. The company currently supplies ETL-certified high-pressure hot water heaters in various sizes for hydrovac trailer or truck applications. They can provide custom hot water heaters and water pump package solutions to meet hydrovac OEM requirements, as well as aftermarket support. Dynablast will be displaying the KTX series water pump, exclusively designed for the hydrovac market, along with 420,000 and 690,000 Btu water heaters.



[See ad on page 38](#)

888-881-6667; www.dynablast.ca; Booth N1624

GapVax VHX Series

The **GapVax VHX Series** hydrovac offers a 15,000-pound payload and low-profile (12 feet 2 inches) making it the ideal combination for all-around hydro-excavation projects. The vacuum system with wet/dry filtration is quiet, reliable and simple. This design includes ultra-efficient centrifugal cyclone separators and long-lasting filter bags. It offers a powerful combination of a 13 gpm, 3,000 psi water system with optional 200 cfm air compressor. The standard full tilting debris body allows for fast unloading and easy clean out. Ease of operation and maintenance keep the operator in mind.



See ad on page 43

888-442-7829; www.gapvax.com; Booth N1339

Kondex Drill Defender HDD Components

Kondex Drill Defender HDD Components provide improved product life and performance from the company's laser cladding application that outlasts hard face welding. Sonde housings, cobble and dirt bits, starter rods and collars improve wear protection characteristics while minimizing labor costs by eliminating the need for hard facing. Get better protection from the start — laser cladding adds a carbide-dense layer of protection that's metallurgically bonded to the base material that won't easily chip or wear off. Its robotic application offers gained wear protection in areas that require pinpoint accuracy to protect.



See ad on page 41

920-238-2915; www.kondexparts.com; Booth N831

HammerHead Bluelight LED System

The **Bluelight LED** CIPP lining system for laterals and small drain pipes from HammerHead is an advanced light-curing system. The innovative technology empowers CIPP lining pros by alleviating the time pressures of other CIPP systems. The specially formulated resin only cures under light in the blue wavelength, giving installers a significantly longer working time between liner wet-out and curing. Once installed, the automated curing system pulls the LED light head through the liner, curing the resin almost instantly — up to five times faster than other methods. A 50-foot sewer line could be fully cured in under 10 minutes.



800-331-6653; www.hammerheadtrenchless.com; Booth N855

Rival Hydrovac T7 and T10

The **T7** from **Rival Hydrovac** was designed as a unit that could be loaded with debris and drive within legislated road limits with most densities of debris on board. Additionally, the unit comes standard with a scale that reads weights both in the cab and on the wireless remote to confirm weights prior to travel. The Rival T10 is built with the same features and operating system, but with larger capacities and components. The T10 is popular with clients who do both utility and industrial work. It is built on three chassis layouts dependent upon weight restrictions in a given area.



See ad on page 27

403-550-7997; www.rivalhydrovac.com; Booth N1329

Hydra-Flex Ripsaw

The **Ripsaw** HD nozzle from **Hydra-Flex** has revolutionized the hydroexcavation industry with its incredible digging power and proven increased efficiency. Its 0-degree stream rotates at an 18-degree cone of coverage, which increases impingement to dig faster and uses less water. Built with a heavy-duty, nonconductive coating, stainless steel housing, and tungsten carbide wear surfaces, its long-lasting, premium components stand tall against frost, shale, and rocky soil, and provide extra safety for both users and underground utilities.



See ad on page 3

952-808-3640; www.hydrflexinc.com; Booth N1525

RODDIE DD-1 Bore Glide

The **DD-1 Bore Glide** from **RODDIE** is a user-friendly, compact pit-launched horizontal directional drill with the power of much larger machines. Its over 15,000 pounds of thrust and pullback give it a drill range of up to 400 feet and 6-inch pipe. Because of its design you can set up in a shallow pit as small as 2-by-4 or 3-by-5 feet if you are using the stackable drill containment box. It can be powered by a mini-excavator, skid-steer or stand-alone power pack.



See ad on pages 30 & 37

888-406-3821; <https://roddieunderground.com>; Booth EH2337

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See ad on page 19

800-877-3687; www.unitedrentals.com; Booth E1345

Vivax-Metrotech vCamMX-2

The **vCamMX-2** portable all-in-one system from **Vivax-Metrotech** can inspect pipes from 1 1/2 to 4 inches in diameter. The 8-inch adjustable LCD shows the pushrod's distance out along with the current date and time. It is available with 100 or 150 feet of pushrod with a 512 Hz sonde and a choice of three user-changeable camera heads. Text and audio comments can be added to videos and pictures from the control module or the free VMC smartphone app.



800-446-3392; www.vivax-metrotech.com; Booth EH2300

Vermeer D23x30DR S3 Navigator

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See ad on page 9

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BY ASSOCIATION OF EQUIPMENT MANUFACTURERS STAFF

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Now, however, electric equipment is becoming increasingly prevalent on and around job sites. Its potential is evident. Its benefits are clear. Its long-term place in the industry is no longer up for debate.

And, as electric vehicles continue to be more widely adopted by consumers, all that's left to do is examine — and try to accurately determine — how the construction industry should prepare for the technology to become fully mainstream in the not-too-distant future.

“If you go out about three years, there will be approximately 700 electric vehicles roadside, and that's not even getting into construction and agriculture,” says David Knight, CEO of Terbine, a provider of technology for the seamless exchanging of Internet of Things data between the mobility and

energy sectors, who spoke on how the construction industry should prepare for the widespread adoption of electric vehicles in the not-too-distant future at CONEXPO-CON/AGG 2023.

According to Knight, there are five main reasons why equipment end users in the construction industry are strongly considering investing (or already have invested) in electric machinery.

“IF YOU GO OUT ABOUT THREE YEARS, THERE WILL BE APPROXIMATELY 700 ELECTRIC VEHICLES ROADSIDE, AND THAT'S NOT EVEN GETTING INTO CONSTRUCTION AND AGRICULTURE.”

David Knight



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1. LOWER OPERATING COSTS

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Reciprocating engines possess many friction-generating parts that are prone to failure. The friction, and the frictional components and amount of heat generated with an engine running is really what contributes to parts being replaced and maintained.

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Incentives can offer savings in the tens of thousands, or even hundreds of thousands, across a single fleet. Because they change all the time, it’s important for organizations to stay up to date regarding what’s available, both regionally and nationally.

4. CARBON CREDITS AND OFFSETS

Carbon credits, also known as carbon allowances, work like permission slips for emissions. When a company buys a carbon credit, usually from the government, they gain permission to generate one ton of CO₂ emissions. When one company removes a unit of carbon from the atmosphere as part of their normal business activity, they can generate a carbon offset. Other companies can then purchase that carbon offset to reduce their own carbon footprint.

About the Association of Equipment Manufacturers

AEM is the North America-based international trade group representing off-road equipment manufacturers and suppliers with more than 1,000 companies and more than 200 product lines in the agriculture and construction-related industry sectors worldwide. The equipment manufacturing industry in the United States supports 2.8 million jobs and contributes roughly \$288 billion to the economy every year.

5. ESG GOALS

Many organizations are setting and working toward Environmental, Social and Corporate Governance goals, and it’s a trend that’s only expected to become more common with time. Without goals and corresponding policies, organizations face ESG risk, which includes loss of investors, a damaged reputation and fines for regulatory noncompliance.

There is every reason to believe the electric vehicles and electric equipment will continue to develop and improve over time, said Knight, thus making a greater level of adoption even more likely in the very near future. According to the Turbine CEO, the architectures of electric vehicles are going to even higher voltages. The higher the voltage, he explained, the less current is needed for a given amount of wattage.

That also means less heat. And, while voltages are very good now, they are expected to improve significantly in the coming years.

“They’re going to be really good in three to five years, and that’s going to allow for even faster and more efficient charging than ever before,” he added.

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Success Stories:

EXCAVATION EQUIPMENT AND ATTACHMENTS, TRENCHING, COMMUNICATION EQUIPMENT AND SYSTEMS

BY CRAIG MANDLI



Mini-excavators a fit for urban beltline work

PROBLEM

Brooks Berry Haynie & Associates was the successful bidder on utility work for the new extension of the Atlanta BeltLine Westside Trail, a 3-mile stretch of the 22-mile Atlanta BeltLine. The BeltLine has been ongoing since 2005 and BBH has been part of the project during most phases. The company's crews install light poles and lighting, traffic signals, fiber optic cables, security cameras and more.

SOLUTION

Mini-excavators are one of BBH's biggest assets for the company's portion of the project and for most of the work they do. Their fleet includes several **Yanmar SV100s, Vi055s and Vi035s**. "We own about 30 of the Vi035s because of their ability to work in very tight spaces like street corners with a lot of traffic," says Andy O'Kelley, chief operating officer at BBH. "They are a great efficiency-enhancing tool for us and can be paired with multiple attachments, so we don't have to cross the road back and forth to switch out machines."

RESULT The mini-excavators' versatility saves the crews a significant amount of time on the job site. A light pole, for example, can be completed in an hour. BBH uses a bucket to dig for conduit installation before switching to an auger attachment to drill a hole. Crews then use the excavator to carry over the precast concrete base, place it in the hole and backfill. Previously, crews may have had to dig 10 or 12 holes, pour the wet concrete, wait for it to set while hoping for good weather, then backfill. "These machines are very dependable and pretty much maintain themselves, so all we have to do is preventive maintenance," O'Kelley says. "This helps our team stay highly efficient on the job site because we don't have to worry about a lot of machine downtime." 770-877-9894; us.yanmar.com ▼

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MARCH 19-21, 2024



GlobalExcavationSafetyConference.com

Communication Equipment

CrewPlex

CrewPlex is a hands-free communication solution to help crews overcome the challenges of continuous communication in environments where noise, distance and task complexity can affect safety and productivity. It can connect the entire crew, supervisors and support personnel team with one system. Users can talk and hear each other in real-time without delay, voice triggering or pushing a button. High audio quality provides better communication in all environments, especially on sites where noise levels can exceed 100 dB. Available connectivity to two-way radio systems keeps workgroups in touch with a supervisor and extends the communication reach of an entire work crew.

334-321-1400; www.crewcom.com



Compact Equipment

Brokk 120DII

Brokk's 120DII remote-controlled demolition machine pairs with the Brokk Vacuum Excavation Kit for improved maneuverability, safety and versatility in tight vacuum excavation applications. At 31 inches wide, 80 inches long and 49 inches tall, it is ideal for tight spaces where truck-mounted excavation systems can't reach. The package includes a bracket mounted on the rear of the machine and on the three-part arm to secure the hose and transport it from the vacuum excavation truck to the excavation site. A specially designed plate attaches to the end of the arm and includes an opening to hold and stabilize the hose's nozzle. Thanks to the quick hitch, the plate can be rapidly removed and switched with another attachment. A range of electric models can also be equipped with the vacuum excavation kit.

800-621-7856; www.brokk.com



Equipment Attachment

Integrity Rail Products EasyDrill FD10G

The EasyDrill FD10G HDD unit from Integrity Rail Products is powered by the hydraulics on an excavator or backhoe. It offers significant savings over a self-propelled HDD unit, and operators can use the power and propulsion that already exists with their backhoe or excavator. It has ideal thrust and pullback power. A fluid system and drill rods also come with the unit in a basket designed to attach to the excavator. It offers high-performance drilling, surface or pit launch, 360-degree rotation, plus-or-minus 90-degree launch angles, extreme steerability, and it attaches to an excavator as small as 3.5 tons.

905-928-6415; www.integrityrailproducts.com



Excavators

Komatsu PC130LC-11

Komatsu's upgraded PC130LC-11 includes a longer undercarriage design that increases lifting capacity by up to 20%. This durable, reliable and productive 97.2 hp small conventional tail-swing excavator is easily transportable and offers a combination of lightweight power and agility in a small package. It uses up to 12% less fuel than the previous model. Fuel consumption can also be reduced with the auto idle shutdown feature that can be set to automatically stop the



engine after a preset amount of idle time. The diesel oxidation catalyst helps reduce particulate matter by using passive regeneration over 98% of the time. It offers fast cycle times, seamless multifunction motions, exacting bucket movements and exceptional lifting capabilities. High hydraulic pressures help optimize high arm and bucket digging forces. For long-term durability, steel castings in the boom foot, boom nose and arm tip help spread working loads away from high-stress areas.

847-437-5800; www.komatsu.com

Mecalac MWR Series

The MWR Series of wheeled excavators from Mecalac consists of three models — the 7MWR, 9MWR and 11MWR. They allow for maximum maneuverability in tight working areas, offering the flexibility and versatility of a skid-steer or compact track loader in one machine and delivering higher speed and mobility than tracked excavators. The 7MWR offers variable speed between 0 and 19 mph. Two of the larger models, the 9MWR and 11MWR, provide contractors standard travel speeds between 0 and 12 mph with an option for enhanced speed up to 22 mph on the 9MWR and up to 19 mph on the 11MWR. Machines have a low center of gravity while maintaining a high ground clearance, ensuring stability even while operating off-road and on slopes and reducing the risk of undercarriage damage from obstacles on the ground. With four-wheel steering, the machines are maneuverable and feature a turn radius 2.5 times more compact than a traditional wheeled excavator. A 75 hp engine is standard.

508-921-3076; www.mecalac.com



Takeuchi TB350R Series 3

Takeuchi's TB350R Series 3 compact excavator has a short tail swing design that makes it ideal for working in tight or confined spaces. Inside the cab a 7-inch, multifunction color monitor with touchscreen places a wide range of functions at the operator's fingertips. A dedicated coupler circuit on cab models allows for the quick and easy exchange of various hydraulically driven attachments. A jog dial with one-touch controls lets operators easily control throttle position and multiple machine functions. It also offers greater working ranges, including a dig depth of 11 feet 8 inches, maximum reach of 19 feet 10.8 inches and maximum dump height of 12 feet 11.3 inches. Thanks to its high-flow primary auxiliary circuit, it is ideal for multiple applications, including demolition, land/vegetation management, general contracting, landscaping, hardscaping, rental and residential and commercial construction.

706-693-3600; www.takeuchi-us.com



Hydroexcavation Equipment

Ditch Witch Warlock W12

Contractors looking to maximize efficiency on the job site can now lean on the PTO-driven Warlock W12 vacuum excavator from Ditch Witch. With dual 600-gallon saddle tanks and a 12-cubic-yard debris tank, it brings increased capacity and performance to the job site. Dual hose reels, as well as the ability to both hydro and air excavate with the same truck, add to its versatility. Available with a 5,000 cfm blower, it has the power to complete any vacuum excavation job. The W12 is the first truck vac in the new Warlock series to be released.

580-336-4402; www.ditchwitch.com



Dynablast CAB420FLS-12V

The Dynablast CAB420FLS-12V water heater produces 420,000 Btu with an output temperature of 175 degrees F at 5 gpm to work in colder climates and for improved digging in clay-filled areas. All models come with ETL certification for safety, which also includes certification on the coil for higher efficiency and heat transfer, stainless steel target plate for increased coil life and designed with serviceability in mind with momentary override control. Its full cabinet design and a small 24-by-24-inch footprint make it ideal for compact installations.



905-867-4642; www.dynablast.ca

Enz USA Hydro X

The Hydro X from Enz USA is available in 3/8- or 1/2-inch NPT connecting threads and can function up to 5,000 psi with flows as low as 8 gpm. It combines a powerful, oscillating water jet with the high removal rate of debris. The Tungsten carbide front jet ensures a long life. For quick and easy maintenance, a repair kit is available. Due to the simplicity of the nozzle, a repair can be made quickly and efficiently in the field with little downtime. A plastic cover provides protection against harsh and sensitive environments.



877-369-8721; www.enz.com

GapVax VHX Series

The GapVax VHX Series hydrovac is designed to deliver optimal weight distribution, improved safety features and increased performance. The debris body is 7.5 cubic yards, offering a 15,000-pound payload. The low profile (12 feet, 2 inches) makes it suitable for all-around hydroexcavation projects. The vacuum system with single mode wet/dry filtration is quiet, reliable and simple, according to the maker. It includes a 4,000 cfm positive displacement blower, 600 hp transfer case with air-shift engagement and ultra-quiet air injection, and discharge silencers. This filtration design includes a top-loading debris tank, 14-inch stainless steel float-ball shut-off, efficient centrifugal cyclone separators and long-lasting filter bags. It is equipped with a 12 gpm, 3,000 psi water system with optional 200 cfm air compressor system. A full-tilting debris body, over 45-degree dump angle and full-opening tailgate allow for fast unloading and easy cleanout. The 8-inch telescoping VHX boom offers a 22-foot reach with 15-degree downward pivot.



888-442-7829; www.gapvax.com

Hi-Vac X-13

The Hi-Vac X-13 hydroexcavator is designed to maximize productivity and minimize downtime. Simple, intuitive controls and quick access to all critical systems mean jobs get done faster. The maximum legal payload is ideal for projects that require on-site dumping and off-highway applications. A 13-cubic-yard debris tank, up to 24,500-pound payload capacity and 1,140-gallon freshwater capacity help reduce the number of costly job site returns. Power is provided by a 5,800 cfm 27-inch Hg high-performance blower and a run-dry water pump delivers 20 gpm at 2,500 psi. The 360-degree, top-mounted boom provides full accessibility in every direction. A severe-duty, on-board boiler heats water for job sites with frozen ground. It only requires a short learning curve and is supported by an extensive training program.



800-752-2400; www.x-vac.com

HotJet USA Vac'n Jet Series

The HotJet USA Vac'n Jet Series of vacuum trailer jettors are compact and specially engineered to haul the equipment, spoils load and to clean valve

boxes, storm drains, perform hydroexcavation and/or clean drain/sewer lines. They feature hot and/or cold water operation with a choice of engine options ranging from 23 to 70 hp and gas or diesel operation. They are equipped with premium triplex pumps, a 500-gallon spoils tank, up to 440-gallon water tanks, Gardner Denver vac/blowers, a 4-ton hydraulic dump and a dual filter centri-clean filter system. They can also be custom engineered and designed to meet specifications.



800-624-8186; www.hotjetusa.com

Hydra-Flex Switchblade

The Switchblade from Hydra-Flex was designed specifically for trenching and precision digging applications with its long, linear flow pattern. Choose from one, two or four solid (0-degree) streams that provide greater impingement and allow the technician to cut through soil faster – at different widths – while using less water. Use the single stream for extremely accurate and precise digging and the four-stream option to optimize efficiency. Each nozzle can be customized with individual and replaceable pills to change the flow rate on the fly. These heavy-duty, high-impact nozzles are constructed with stainless steel housings and tungsten carbide wear surfaces to withstand harsh environments and live longer. The non-conductive Hytrel coating on the nozzle body protects both the operator and sensitive underground utilities.



952-808-3640; www.hydrflexinc.com

Imperial Industries Hydro 3600 Hybrid Excavator

The Hydro 3600 Hybrid Excavator from Imperial Industries is short and compact for maneuverability in tight spaces. It is designed to be user-friendly and efficient. A single person can operate the excavator easily. It includes a 3,600-gallon hauling capacity (customizable sizes available), optional water capacity, code and non-code availability, a three-stage lift hoist with built-in vibrator and full opening rear door for easy dumping, 20 gpm jetter up to 4,000 psi (adjustable), a National Vacuum Equipment 1600 blower and a moisture trap and grit ridder. Options include a 16-function remote control for easy operation of the boom, jetter, blower and vacuum.



800-558-2945; www.imperialind.com

RAMVAC by Sewer Equipment HX-12

The HX-12 hydroexcavator from RAMVAC by Sewer Equipment has a 12-yard debris tank and a heated, secured equipment locker that contains the entire water system, including water tanks, for cold-weather application and tool security. This machine touts a directional discharge system with the ability to offload debris back into the excavation site when done, without the mess of dumping the tank. This system also allows operators to blow any obstructions out of the dig hose and get back to work. It includes a long-range wireless remote, NEMA 4 electrical system, an 800,000 Btu water heater and a three-stage cyclonic filtration system. The standard 4,400 cfm blower will match the performance of larger blower machines while delivering fuel economy with the ability to go up to 5,400 cfm. The series offers debris capacities from 3 to 15 cubic yards while maintaining a short overall footprint.



888-477-7638; www.ram-vac.com

Rival Hydrovac T7 Tandem

The T7 Tandem from Rival Hydrovac was designed primarily to be loaded with debris and drive within legislated road limits with most types of debris on board. Standard is a



scale that reads real-time weights both in the cab and on the wireless remote to confirm weights prior to travel. The operating system is engaged through one PTO switch. The remainder of the operation occurs from the rear panel or the wireless remote. The truck uses high-performance components and will dig at levels competitive to large units, according to the maker.

403-550-7997; www.rivalhydrovac.com

Super Products Mud Dog 700

Mud Dog 700 vacuum excavators from Super Products are designed to meet the challenges of compact, urban projects to large-scale excavation projects. They offer a compact footprint for excavation in urban environments while maximizing payload and maintaining the power and precision that larger units offer. The unit features a 7-yard debris body and 600-gallon water tank. This model comes standard as a dump body with an electric vibrator offering a 50-degree dump angle with the capability of dumping into a 48-inch container. Additionally, it is equipped with a rear-mounted, extendable, 8-inch diameter boom that reaches 18 feet, has 270-degree rotation and pivots 10 degrees downward, which minimizes job site restoration and eliminates traffic congestion near roads.

800-837-9711; www.superproducts.com



TRUVAC Abrasion Resistant Elbow

The Abrasion Resistant Elbow from TRUVAC is a 70-degree boom elbow developed for the most demanding vacuum excavation jobs. The extended wear provided can add service life and maximize productivity. Embedded with noncorroding carbide steel, the interior of the elbow is engineered to provide maximum wear resistance. It is retrofittable to all full sized TRUVAC HXX vacuum excavator models with an 8-inch telescopic boom.

815-672-3171; www.truvac.com



Vactor dig tube with measuring rule

Vactor offers an easy-to-read dig tube with integrated measuring rule for all 6- or 8-inch-diameter dig tubes. This hi-visibility ruler was developed with input from customers. The extended wear provided by this design can save time and keep the crew digging to maximize productivity. Laser-cut from lightweight aluminum, the dig tube with measuring rule features numbers that will stand out under all conditions, never wear off, and come clean with a quick rinse to remove job mud.

815-672-3171; www.vactor.com



Vac-Con Mudslinger MS800

The Mudslinger MS800 trailer-mounted hydrovac from Vac-Con is designed to provide the same power, suction and capacity of a truck hydroexcavator on a portable, pull-behind trailer. It includes the choice of Tier 4 diesel or gas engine options providing up to 1,190 cfm and 16 inches Hg with a PD blower and 325 gallons of water. It has an 845-gallon debris tank and a 9-foot boom with 24 inches of hydraulic extension provides a full range of motion. It is designed to be a standalone unit, but can also provide support to construction, HDD and public utility fleets. A variety of applications includes daylighting, potholing, culvert and manhole cleaning and utility locating.

904-284-4200; www.vac-con.com



Vacall AllExcavate and AllExcavate2

Standard intelligent controls, easy startup and operation set Vacall AllExcavate and AllExcavate2 machines apart. Both models efficiently remove dirt around utility lines and foundations. Water pumps generate 24.5 to 120 gpm and pressures to 3,000 psi. The AE2 model adds air excavation at 185 cfm and dual psi of 110 and 150. Water system, wand, control panel, tools and worker apparel are protected in a heated compartment. An AllSmartFlow CAN bus intelligent control system features a programmable LCD display that monitors engine, water flow, air pressure and vacuum performance for precise boom and reel adjustments. Aluminum water tanks with lifetime warranty carry 1,000 to 1,300 gallons. Galvanized debris tanks have a supreme finish, and are available with 8-, 10- and 13-cubic-yard capacities. They use one engine to power the chassis and excavation functions, reducing service and operation costs.

800-382-8302; www.vacall.com



Vermeer QuickDig

The Vermeer QuickDig nozzle helps vacuum excavation crews maximize their efficiency while potholing and daylighting utilities, hydro/slot trenching and digging pile holes. The nozzle is efficient because of its 18-degree cone rotation and laminar flow design. All water molecules flow in the same direction at the same speed to slice through the ground minimizing water use and delivering a high aperture of coverage. The nozzle is also durable, with a stainless-steel body and tungsten carbide nozzle tip. It can also be rebuilt in the field quickly using a repair kit. Six sizes are available for contractors to choose from. Each comes with a 0.5-inch inlet connection (common on truck vacs) and a 0.25-inch adapter (common for trailer vacs).

352-728-2222; www.vermeer.com



2023-24 ANNUAL BUYER'S GUIDE

The November/December issue of *Dig Different* will feature a comprehensive list of manufacturers and distributors in a special section.

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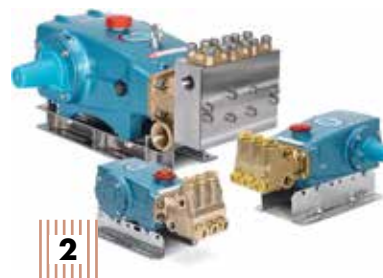


THE LATEST: Products



1. Doran tire monitoring systems

Doran Manufacturing's tire monitoring systems eliminate dangerous and costly run-flats for ready-mix fleets by providing real-time alerts for low inflation pressure, rapid deflation events and extreme tire temperatures. With the Green Means Good at-a-glance indicator, drivers can easily identify if there's an issue with one of their tires. External, valve stem mounted sensors pass tire pressure and temperature data to the in-cab monitor/display, providing drivers with real-time information and alerts. Doran 360 tire monitoring systems include visual and audible alerts for low inflation pressure, rapid deflation events and high tire temperatures. Doran also provides multiple options for fleet managers and equipment maintenance teams to receive real-time tire alerts as well. Monitoring and continually reporting tire pressures and temperatures allows fleets to schedule repairs and corrections to reduce tire related maintenance costs, extend tread life, protect casings and minimize catastrophic tire failures. **866-816-7233; www.doranmfg.com**



2. Cat Pumps hydroexcavating pumps

Over 50 years of high-pressure pump manufacturing experience has earned Cat Pumps a reputation for producing the highest quality, longest lasting pumps in every market it serves. Engineers at Cat Pumps designed Model 2560 with 16 gpm at 3,000 psi and Model 2565 with 20 gpm at 2,500 psi for continuous-duty applications. The 2560 and 2565 pumps are dependable, high-quality products backed by outstanding customer service, training and support. BH versions have a machined-bearing cover to mate with the company's 76SAEC.25FR hydraulic bell housing so the 2560BH and 2565BH can be directly driven by an SAE C hydraulic motor. The compact direct drive allows for a space-saving footprint and is simple to install and maintain. **763-780-5440; www.catpumps.com ▼**

This Issue's Feature:

Liquid ring pump a fit for hydroexcavation market

BY TIM DOBBINS

When **Samson Pumps** first started making liquid ring pumps, they were intended for a broad range of uses. But after years of working in industries like gas and oil, they honed in on the features they saw as the most sought after to create the **Truck Master 3400 Series**.

"After focusing our efforts and priorities on the mobile vacuum truck segment, we learned that we had a very good match with the requirements from manufacturers," says Keld Jørgensen, chief marketing officer for Samson Pumps.

The 3400 Series of liquid ring pumps is now used for various applications, including hydroexcavation, sewer and septic system maintenance, industrial cleaning, spill response and environmental cleanup and construction site cleanup.

"The core of the pumps is the rotor," Jørgensen says. "After several years of researching and testing different methods to improve the rotor, we finally found a geometrical design to increase performance."

Samson used a combination of welding and casting in the rotor construction to achieve strength while reducing the overall weight. To increase the performance and sturdiness of the Truck Master series, Samson created the Optimum HPR (high performance rotor).

Samson focused on flexibility as well when designing the Truck Master 3400 series. "It's important for us to accommodate the vacuum truck builders' need for a versatile vacuum system design when configuring their vacuum trucks," Jørgensen says.

Truck Master 3400 Series
from Samson Pumps



Sustainability has also been valued in the design process. Samson works to choose high-grade materials that extend the life of the pumps and after the end of life most component materials can be recycled. The rotor and mechanical shaft are made from stainless steel and the pump and bearing housing are made from cast iron. The flow plate is constructed from a combination of cast iron and bronze. All together, the pump measures just under 23 inches tall by 48.6 inches long and weighs roughly 1,170 pounds. It can produce 2,010 cfm at 1,400 rpm and generate a 27.1 Hg in vacuum.

"This will give an air speed around 115 ft/sec in a 6-inch suction hose at which speed solid debris such as stone and bricks will fly," Jørgensen says. "Reducing the rpm to 1,100 rpm and using a 4-inch suction hose will give an air speed of 260 ft/sec and 780 cfm."

Jørgensen says operators comment on the powerful suction, low maintenance, clean exhaust and compact design. "They experience getting the job done when onsite and have confidence due to the reliability of their equipment."

www.samson-pumps.com

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THE LATEST:

News

ASSP and VPPPA to collaborate on worker safety

The American Society of Safety Professionals and the Voluntary Protection Programs Participants' Association signed a memorandum of understanding in June. The 18-month agreement brings the safety organizations together to advance workplace safety and health with a focus on assisting the Occupational Safety and Health Administration in modernizing and expanding its longstanding Voluntary Protection Programs.

Wastequip opens new WRX facility in Southern California

Wastequip opened its newest WRX (pronounced "works") facility in Jurupa Valley, California. This facility is part of the company's strategy to expand its parts and service footprint nationwide, providing customers with an all-in-one waste equipment service hub. The Jurupa Valley WRX location offers customers access to localized parts inventory for quick availability and pick up. Later this year, the facility will begin offering service for refuse trucks, hoists, tarping systems and related waste equipment.

JHL Constructors awarded Gold Level of NUCA's safety program

The National Utility Contractors Association announced that JHL

Constructors finished the NUCA STAR safety program. The STAR, or Safety, Training, Awareness and Recognition, program provides a venue for every company in the utility construction industry to measure the effectiveness of its safety programs and recognize how these important company programs can be improved. Englewood, Colorado-based JHL Contractors achieved the STAR Program's Gold Level status. The company is both a NUCA National and a NUCA of Colorado member.

Volvo Construction Equipment to set up new business unit

In order to maximize the opportunities in the growing compact equipment segment Volvo Construction Equipment has launched a new Compact Business Unit. The new unit will take advantage of the shift to electrification in the compact equipment segment to secure a fully electric line up of productive and sustainable products across the whole compact range. It will also have responsibility for the whole value chain including development, assembly, purchasing and the go-to-market strategy (together with the existing distribution network) for the compact offering, and operate as an independent entity within Volvo CE. It will initially be responsible for compact excavators up to 9 tons and compact wheel loaders up to the L50 model. ▼



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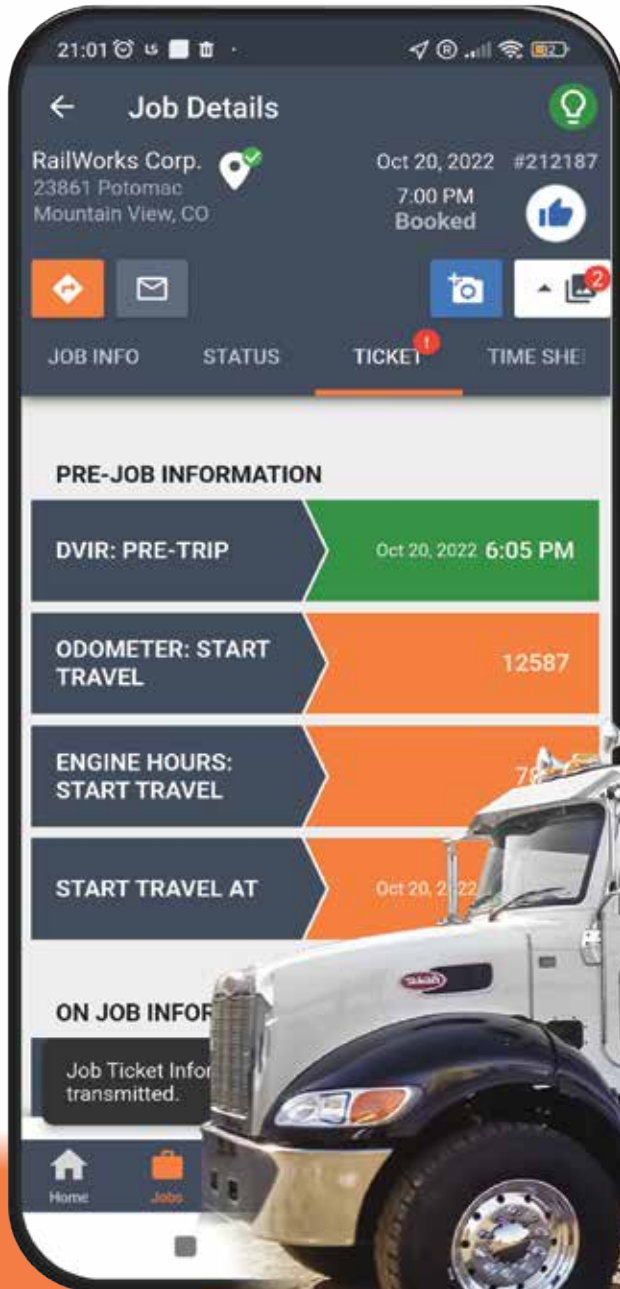
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Happenings

CALENDAR

Sept. 11-13
Breakthroughs in Tunneling Short Course, University of Denver
– Joy Burns Center. Visit www.tunnelingshortcourse.com.

Sept. 14
Underground Contractors Association of Illinois Annual Business Meeting, Venuti's Italian Restaurant & Banquet Hall, Addison. Visit www.uca.org.

Sept. 24-26
Tunneling Association of Canada Toronto Conference, Westin Harbour Castle. Visit www.tunnelcanada.ca.

Sept. 26-28
The Utility Expo, Kentucky Exposition Center, Louisville. Visit www.theutilityexpo.com.

Sept. 30 - Oct. 4
96th Annual Technical Exhibition and Conference, McCormick Place, Chicago. Visit www.weftec.org.

Oct. 12-14
National Utility Contractors Association Annual Convention & Exhibit, Hyatt Regency Resort & Spa at Gainey Ranch, Scottsdale, Arizona. Visit www.nuca.com.

Oct. 25-28
NUCA Fall Convention and Exhibit, Naples Grande Beach Resort, Naples, Florida. Visit www.nuca.com.

Jan. 21-26, 2024
Underground Contractors Association of Illinois Annual Convention, Casa de Campo Resort, Dominican Republic. Visit www.uca.org.

Jan. 24-27
Water & Wastewater Equipment, Treatment & Transport Show, Indiana Convention Center, Indianapolis. Visit www.wwetshow.com.

Dig Different welcomes your contributions to our Happenings column. To recognize members of your team, please send notices of new hires, promotions, service milestones, certifications or achievements. We also invite your national, state or local associations and organizations to post notices, news items and learning opportunities. Send contributions to editor@digdifferent.com. ▼



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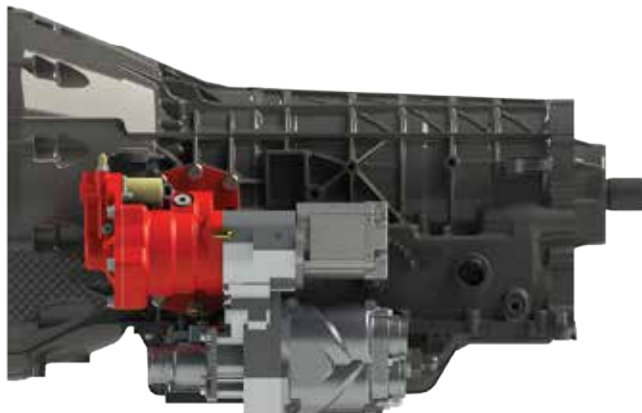


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