

PROFESSIONAL DEMOLITION AMERICAS

Your Gateway to North, Central and South America

Business

Husqvarna Group to Acquire Heger Diamond Tools in Germany
page 6

Business

Kinshofer Acquires Trevi Benne
page 8

Business

Roy Johansson 1951-2022
page 10

Reports

A True Love Story in the US Demolition Industry
page 12

Reports

The Rise of the Demolition Robot
page 30

News

Epiroc Introduces V Cutter
page 16

News

Aquajet Offers Innovative Solutions For Hydropower Applications
page 20

News

Husqvarna's New Range of HEPA Dust Extractors
page 21

News

What's In Your Toolbox?
page 41

Feature

The New And Powerful Handheld Machines and Tools Are Here
page 28

Notices

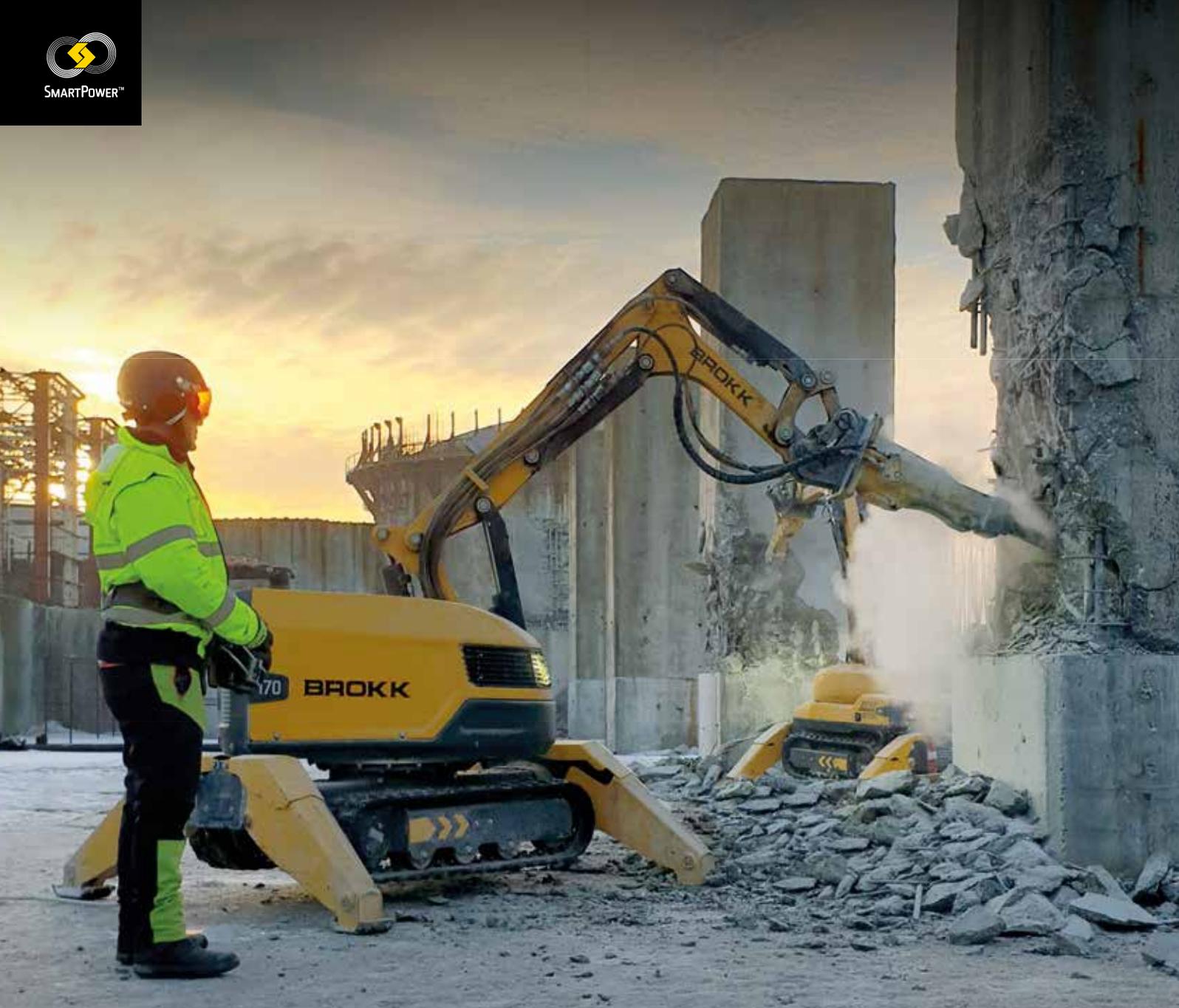
Atomized Mist Cannon Manages Dust in Unfavorable Weather Conditions
page 42

Feature

COUNTER PUNCH

page 24-26

Versatility is the Key to Success in Oregon Tunnel Restoration, page 36



OUR KIND OF PLAYGROUND

This is the natural habitat for Brokk's compact giants. With the perfect combination of power, operability and accessibility our demolition robots provide efficient solutions to increase profits.



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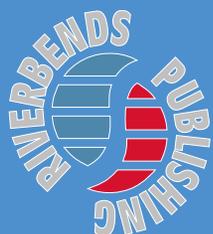
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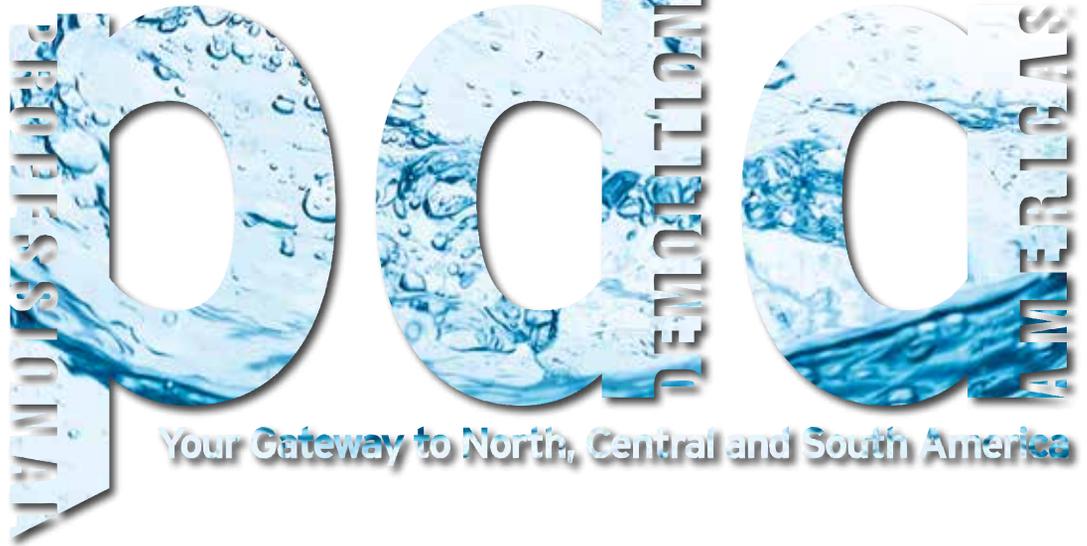
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Contents



Your Gateway to North, Central and South America

4	<i>Editorial</i> Student Bridge Building Competition Offers Its Own Kind of Excitement	10	Rokbak Continues US Expansion By Teaming Up With ProSource Machinery Roy Johansson 1951-2022	41	What's In Your Toolbox?
6	<i>Associations</i> Exciting Year for NDA!	12	<i>Reports</i> A True Love Story in the US Demolition Industry	18	<i>Shows</i> Aqujet Highlights Ergo System at IFAT 2022
6	<i>Business</i> Don Spaziani Named Service Manager for Brokk East Coast	30	The Rise of the Demolition Robot	24	<i>Feature</i> Counter Punch
7	Dennison Joins Diamond Vantage Sales Team	16	<i>News</i> Atlas Copco Hybrid Power Solutions Take Sustainability to New Levels	28	The New And Powerful Handheld Machines and Tools Are Here
7	Husqvarna Group to Acquire Heger Diamond Tools in Germany	36	<i>Site Report</i> Versatility is the Key to Success in Oregon Tunnel Restoration	42	<i>Notices</i> Atomized Mist Cannon Manages Dust in Unfavorable Weather Conditions
8	AEM Seeks Recommendations for Next Hall of Fame Inductee	40	Epiroc Intricies V Cutter		Yanmar Acquires Majority Ownership in Battery Technology Company
8	Events Calendar		Aquajet Offers Innovative Solutions For Hydropower Applications		Yanmar America Sponsors Atlanta Braves Grounds-keeping Equipment
9	C.W. Machine Wox and Generac Form US Partnership		Husqvarna's New Range of HEPA Dust Extractors		
	Kinshofer Acquires Trevi Benne		Breaker Basics: Four Quick Steps Toward Increased Uptime		
	Epiroc Launches 24/7 Self-Service Videos to Maximize Equipment Uptime		Move/Edition - Scanmaskin's Most Ergonomic Floor Grinder		
			Yanmar Launches Website Dedicated to Compact Equipment		

Student Bridge Building Competition Offers Its Own Kind of Excitement

Inside a cavernous indoor football practice facility on a bright May morning, the cheers and chants coming from supporters watching the finals of the National Steel Bridge Building Competition might have easily been mistaken for fans at the women's softball super regional game, being held a short walk away.

But while those teams were vying for a coveted spot in the College World Series, the Steel Bridge Competition was no less important to its participants. And their energy was contagious.

Co-sponsored by the American Institute of Steel Construction and the American Society of Civil Engineers, the competition challenges students to apply their classroom learning and ingenuity to tackle a real-world design and construction issue—this year, creating a scale model of a wildlife bridge to span an interstate highway.

The finals culminate the team's year-long marathon to design, test, fabricate, and build their structures, tweaking designs along the way in hopes of reducing cost and overall weight, enhancing appearance and constructability, and improving load-handling ability. Qualifying at regional competitions brought 34 teams from across North America to Blacksburg for the ultimate test of whose design best balance these and other test criteria.

Participants were as serious about the competition as their counterparts in the softball stadium, particularly since some had traveled from as far away as Alaska, Mexico, and Puerto Rico. During the timed building segment, their teammates, friends, and parents cheered them on as they raced the clock to assemble their structures. Despite the distance, one West Coast school had more than 20 backers shouting chants typically

heard at football stadiums on fall Saturdays.

Those cheers faded to a hush as each completed structure underwent a carefully sequenced loading and deflection test.

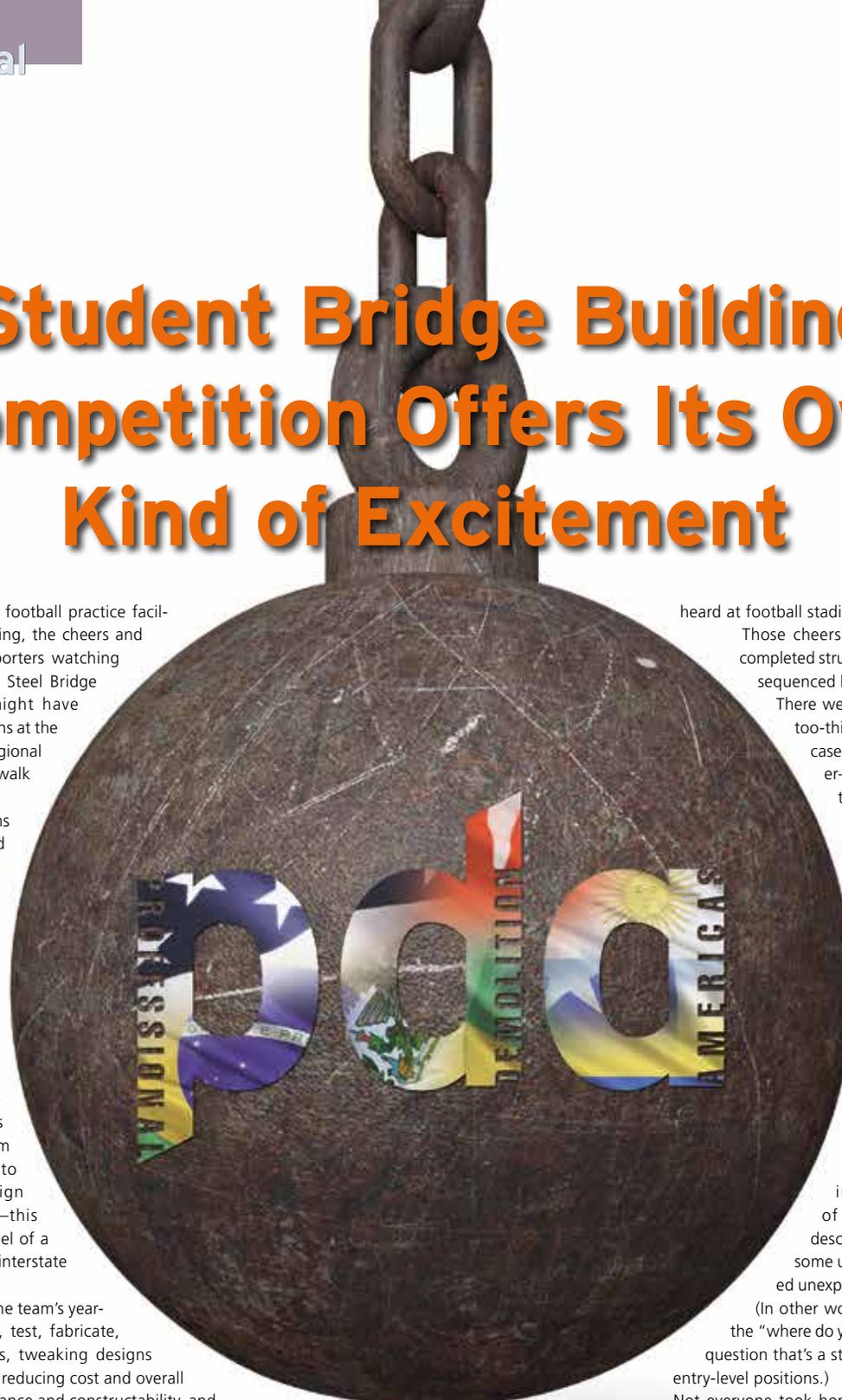
There were a handful of failures—a too-thin span component in one case, a sheared bolt in another—and judges did their best to turn the teams' disappointment into teaching moments, a reminder that things don't always work out as planned in the real world. Better to find a potential fault in the design and test phase, than after construction.

That message was echoed during the competition's awards banquet by guest speaker John Hillman, senior structural engineer at Kiewit and Engineering News-Record Award of Excellence Winner, who described how his career took some unexpected turns, yet created unexpected opportunities as well.

(In other words, don't get hung up on the "where do you want to be in five years" question that's a staple of most interviews for entry-level positions.)

Not everyone took home winners' hardware (the University of Florida won both the Steel Bridge competition and the softball match), but it's fair to say that the experience contributed to the construction of hundreds of other, more important bridges—from student life to productive, rewarding careers solving the world's many infrastructure challenges.

Jim Parsons, Senior Editor
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PDA Magazine is pleased to present regular updates from the US National Demolition Association. This column comes from NDA Executive Director Jeff Lambert.

Exciting Year for NDA!

NDA recently held its 2022 Summer Leadership Forum in Estes Park, Colo., with 80 members in attendance. The meeting included a panel discussion on NDA's newly released Demolition of Power Plants Guidance Document, moderated by Ahmed Khalil of member company Applied Science International, LLC.

Between the networking, education, committee meetings, and the scenery of nearby Rocky Mountain National Park, members walked away with new connections and tools to tackle the remainder of the year. NDA Leadership Forums are open to all member in good standing. The next meeting—October 9-10 in Portland, Maine—features a session on the new Implosion Guidance Document. We also plan to release Pre-Apprenticeship Training Guidelines prior to the Winter Leadership Forum.

The rest of this year is an exciting for NDA for many reasons, but I am especially looking forward to our continued progress on the education front. The Foundations of Demolition Project Management and Job Cost Tracking courses in Atlanta attracted more than 30 attendees each, while our June virtual Foundations of Demolition Estimating course had more 50 attendees. These courses and the certificate of completion have become a "must have" in the industry. We hope you will consider sending one of your colleagues to our fall courses.

On the government affairs front, NDA recently submitted comment on the proposed update to the Davis-Bacon Act, which applies to federal and federally-assisted construction projects. We formally asked the U.S. Department of Labor to extend the comment period for an additional 60 days to give stakeholders more time to analyze the 400-page rule. NDA also recently joined the Construction Industry Safety Coalition (CISC) in submitting comments to the U.S. Occupational Safety and Health Administration regarding its Advance Notice of Proposed Rulemaking on heat injury and illness prevention in outdoor and indoor work settings.

The 25th episode of the Demolition Now podcast is now available. NDA Industry Committee members, Blake Svendsen, ERM, and Ahmed Khalil, Applied Sciences International discuss the committee's work on the power plants guidance document, while David Sinclair shares his thoughts regarding the industry and his recent NDA Lifetime Achievement award.

There is nothing more valuable than a peer-to-peer connection and education to advancing your career. If you know someone who is not a member of NDA, or you yourself are not a member, now is the time to join. Membership provides access to safety resources, demolition best practices, educational content, a company listing in our public Membership Directory and so much more. Contact me directly at jlambert@demolitionassociation.com or apply for membership online at demolitionassociation.com.

Jeff Lambert
Executive Director

www.demolitionassociation.org



Don Spaziani Named Service Manager for Brokk East Coast

Brokk has hired Don Spaziani as service manager for Brokk East Coast. Located in Stanhope, NJ, Brokk East Coast offers operator training, equipment demonstrations, parts, and repairs for both Brokk and Aquajet equipment.

A resident of nearby Montville, NJ, Spaziani brings 35 years of industry experience to his position at Brokk Inc. After graduating from the Engine City Technical Institute, he started his career as a mechanic at a Caterpillar dealership in the area and worked his way up to service manager. He then joined John Deere Construction and Forestry Equip-

ment Company as regional service/warranty manager, covering nine branches extending from Maine to New York.

Spaziani most recently worked as a regional service manager for the local John Deere Construction and Forestry dealership that covers New York City, the Hudson Valley, and Northern New Jersey. During his nine years in that role, he led the creation of a new, full-service Long Island branch.

Brokk has locations across the United States to provide regional service to its North America customers.

www.brokk.com



Dennison Joins Diamond Vantage Sales Team

Diamond Vantage named Dan Dennison as district sales manager for Pennsylvania, Ohio, Michigan, Indiana, and Maryland.

Dennison brings a wealth of industry and sales knowledge to Diamond Vantage. His more than 20 years in sales includes long tenures with Hoffman Diamond Products and Diamond Tools Technology. Based in western Pennsylvania, Dennison and his wife Angela, have two sons.

www.diamondvantage.com

Husqvarna Group to Acquire Heger Diamond Tools in Germany

Husqvarna Group's Construction Division has acquired Heger, a privately owned German specialist in professional diamond tools for European sawing and drilling contractors in wall, floor, and road sawing, as well as core drilling. Founded in 1908, Heger has a long tradition of supporting customers in its field. Headquartered in Heitersheim, Germany, the company has approximately 45 employees.

"Heger's highly appreciated flexible production, short delivery times, and high performance and quality products will add significant value to what we already offer customers," says Karin Falk, President of Husqvarna's Construction Division. "Our combined strengths create an excellent platform for further growth in the diamond tools market for professional contractors."

www.husqvarnagroup.com

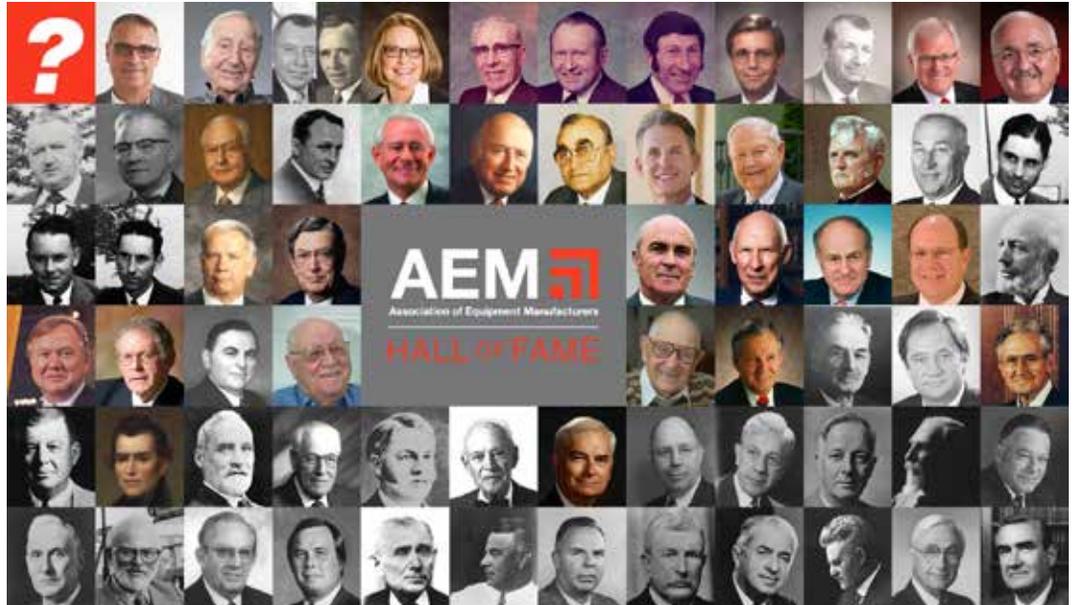


AEM Seeks Recommendations for Next Hall of Fame Inductee

For nearly 30 years, the Association of Equipment Manufacturers Hall of Fame has recognized pioneers whose inventions, ideas, leadership, and courage have contributed to the industry and our community's quality of life. Now, AEM is encouraging nominations for the next class of inductees.

Equipment manufacturers, as an industry, understand that one of the best ways to connect with individuals from every walk of life is to lift our worthiest representatives as a beacon to groups who may not have considered our industry in the past. There are notable candidates throughout every nuanced segment of the equipment manufacturing world, and it behooves our industry to celebrate them all.

"The world of equipment manufacturing is a diverse, interesting world, and one need only look at the members of the AEM Hall of Fame, and their accomplishments, to see what I mean," says AEM President Megan Tanel. "The 66 members of the AEM Hall of Fame are some of the finest representatives of the equipment manufacturing industry, and its contributions to our modern way of life. And there are hundreds more individuals who have contributed to our sector, and our



world, awaiting their recognition."

Last year, the AEM Hall of Fame inducted Trimble, Inc.'s Bryn Fosburgh, co-developer of the real-time kinematic technology that allows

the GPS receiver in your phone, excavator, or tractor to know where it is within inches and seconds.

The AEM Hall of Fame inducted its first woman (Mary Andringa of Vermeer) in 2019, and its first Hispanic member (Gus Ramirez of HUSCO International) in 2014. Andringa led Vermeer down the path of lean manufacturing success, using these practices to take the production time of one of their major products from 52 days down to just two. Ramirez's dedication to hydraulic and other fluid power technologies at HUSCO has led the company to earning more than 100 patents since he took the helm, and the establishment of the HUSCO Chair of Fluid Power at Georgia Tech. Both have since gone on to show an uncommon dedication to education that continues to impact their communities.

There are hundreds more stories yet to be told of women and men of every background, including African, Latino, Asian, Middle Eastern and others, that the AEM Hall of Fame is looking to lift up. The AEM Hall of Fame needs experts in the construction and agriculture equipment manufacturing industries to tell us those stories so we can.

In short, AEM recognizes representation matters, especially when talking about the most notable representatives of an entire sector of our economy. As an industry, equipment manufacturers have spent years working to build their talent roster and sought (and continue to seek) individuals from every walk of life. Look at the current members of the AEM Hall of Fame, and submit your nomination by June 17, 2022, www.AEM.org/hall-of-fame.

www.aem.org



AEM President Megan Tanel.



Bryn Fosburgh from Trimble.

Durex Names New South-Central Regional Sales Manager Bo Doll

Durex Products Inc., has named Bo Doll as Regional Sales Manager covering the south-central United States. Based in Dallas, Texas, Doll will work with the company's south-central dealers—including Excel Machinery LTD; Harman & Associates, Inc.; and Construction & Aggregate Products—to generate new business and maintain the current customer base.

Following his father's footsteps, Doll comes to Durex with six years of experience in the aggregate, mining, and metals industry, having worked for Major Wire, Wirtgen America, and McCourt Equipment. In addition, Doll holds a Bachelor's degree in general studies from Southeastern Louisiana University, and has a strong background in sales, account management,

retail, and customer service. Durex Products Inc., designs, manufactures, and markets screen media, including wire and polymer media in tensioned and modular versions and stainless-steel woven-wire cloth, as well as wear liners and screen accessories, for the aggregates, mining, recycling, and industrial industries.

www.durexproducts.com



Event Calendar

Expo Edificare Puebla

August 16-18, 2022
Centro de Convenciones de Puebla, Puebla, Mexico
expoedificarepuebla.com

Concrete Show, Brazil

August 9-11, 2022
Sao Paulo Exhibition Center, Sao Paulo, Brazil
www.concreteshow.com.br

ExpoCihac, Mexico

October 12-14, 2022
Centro Citibanamex, Mexico City, Mexico
www.expocihac.com

BAUMA 2022

October 24-30, 2022
Munich Exhibition Center, Munich, Germany
www.bauma.de

DEMCON 2022

November 24-25, 2022
InfraCity, Bredden, Stockholm, Sweden
www.demcon.se

BAUMA China 2022

November 22-25, 2022
Shanghai Exhibition Center, Shanghai, China
www.bauma-china.com

World of Concrete 2023

January 17-19, 2022
Las Vegas Convention Center, Las Vegas, Nevada
www.worldofconcrete.com

CONEXPO-CON/AGG

March 14-18, 2023
Las Vegas Exhibition Center Las Vegas, USA
www.conexpoconagg.com

Samoter 2023

March, 2023
Verona Exhibition Center, Verona, Italy
www.samoter.it

ARA Show

March 12-15, 2023
Orlando Convention Center Orlando, FL, USA
www.arashow.org

Intermat 2024

April, 2024
Villepinte, Paris Nord, France
www.intermat.fr

C.W. Machine Worx and Generac Form US Partnership

Generac has named C.W. Machine Worx (WORX), of Carroll, Ohio, as the exclusive U.S. distributor of the Dust Fighter 15000 and 20000 models. Both options be available to rent or purchase through WORX's dealer, Company Wrench.

The DF 15000 and DF 20000 are mid-sized units capable of reaching throw ranges of 150 ft (45.7m) and 200 ft (61m) respectively. Equipped with Generac generators, both models are mounted on sturdy, well-balanced trailers. Although the specifications are generally similar, the Dust Fighters weigh considerably less than competitive models. This makes transporting dust suppression equipment to multiple jobsites easier and more affordable than ever.

WORX is no stranger to the Dust Fighter product, as it was the authorized Dust Fighter distributor 13 years ago when the product was owned by Tower Light. WORX stopped offering the Dust Fighter product to focus on manufacturing its own, domestic dust suppression product line. After successfully introducing the Dust Destroyer to the market, WORX began exploring other ways to establish itself as the leader in dust suppression equipment and technology.

WORX's Product Manager, Hugh Gordon, believes adding the Dust Fighter options to its product offering accomplishes this goal.

"We had tremendous success selling Dust Fighters in the past," Gordon says. "I'm confident we will build upon this success because of the brand recognition and the price point in the market. All of our dust suppression products, including the DF 15000 and DF 20000, feature a wheelless base design. Instead of using tricycle wheels, which can tip over if it's top-heavy or stuck in a groove, WORX's balanced trailer allows for increased stability and mobility."

Reintroducing the DF 15000 and DF 20000 allows WORX to diversify its fleet with cost-effective options, which are appealing to a wider customer base. "The price, paired with the weight, stability, and high-quality generator, separates this product from its competitors," Gordon said.



Kinshofer Acquires Trevi Benne



Kinshofer of Germany and Trevi Benne of Italy have finalized an agreement to merge the two companies. Under the terms of the agreement Kinshofer, will acquired a majority stake in Trevi Benne.

For more 50 years, Kinshofer has been a leading manufacturer of tools for truck mounted cranes, excavators, and skid steer loaders to become a competent and reliable partner for OEMs and OEDs alike. The company's previous acquisitions include Liftall Inc. (Canada), Demarec B.V. (Holland), RF System AB (Sweden), Auger Torque Group (U.K./Australia/ China), Solesbee's LLC (US), the Doherty Group (New Zealand/ Australia), Hammer Srl. (Italy), and Cangini Benne Srl. (Italy).

Trevi Benne, a 30-year-old family business, focuses on the development and marketing of demolition and scrap processing tools for excavators, to make carriers more productive and durable. The acquisition of Trevi Benne is significant in that it strengthens Kinshofer's portfolio of demolition tools, adds new product segments to an already comprehensive offering, and improves distribution channels in markets where Trevi Benne is very strong. Trevi Benne will continue to develop and sell its products globally

In addition, Kinshofer has further enhanced local manufacturing in Italy by acquiring Trevi Benne's advanced vertically integrated production facilities. That means customers of both companies will enjoy faster service and a broader product range.

"Kinshofer continues its strategy to

provide the industry with a 'One-Stop-Shop' solution of outstandingly engineered products to increase efficiency and, more importantly, profitability for its customers," says Thomas Friedrich, president and CEO of Kinshofer Group. "The acquisition of Trevi Benne was the next step in our approach to be a global industry leader with solid local presence."

Luca Vaccaro, who will remain co-owner and CEO of Trevi Benne, adds, "The concentration of knowledge and competence, particularly in the demolition sector, will form a powerful centre for future developments customers can only benefit from. The combination of both product ranges will create more ground-breaking innovations for the industry. The whole Trevi Benne team, which will stay on in its entirety, is very excited to be part of this mutual future."

In order to meet the current market requirements, Trevi Benne and Kinshofer will recruit more staff to ensure a swift and professional market launch of the companies' products within their respective sales organizations. The Kinshofer Group is owned by Lifco who also owns Brokk and Aquajet Systems.

www.kinshofer.com
www.trevibenne.com



Luca Vaccaro, founder of Trevi Benne.

Epiroc Launches 24/7 Self-Service Videos to Maximize Equipment Uptime



Epiroc has launched a 24/7 self-service video series designed to help operators and service technicians maximize their uptime of Epiroc equipment. The instructional how-to videos bring Epiroc's extensive machine and application knowledge right to customers' fingertips on their web or mobile devices. This allows the operators and service technicians to be as safe and efficient as possible.

Available at 24-selfservice.com and on Epiroc's YouTube channel, the new 24/7 video series addresses the needs of many customers who prefer to have quick and easy access to information that would help them take care of their mining and construction equipment anytime, anywhere, to keep the production running smoothly.

The videos simplify troubleshooting, maintenance, and repair for customers who prefer to perform routine work on their Epiroc equipment. The videos include answers to frequently asked questions and feature experienced Epiroc Product Experts who walk through step-by-step instructions and recommend parts and tooling for completing specific service work and a range of common repairs on various Epiroc machines.

In addition to on-demand access, the videos are closed captioned. If conditions

don't allow for users to hear clearly, they can still utilize the videos to help resolve their issue.

"Customers' productivity is our top priority," says Floris Timmers, Business Line Manager for Parts & Services division at Epiroc USA. "Having just one machine down can bring an entire job site to a standstill, but there's no need to wait for help on typical repairs. Sometimes it's possible to do the troubleshooting, repairs and maintenance yourself so you can get up and running as quickly as possible. That's why we offer our 24/7 self-service videos."

Epiroc USA currently has 50 instructional videos in its online library, covering a wide range of topics related to troubleshooting, maintenance issues, and repairs of the SmartROC D65, D60, D55 and PowerROC T45, T35. Topics including troubleshooting sensor failure, winterizing, pre-walk inspection, e-stop, and many others. Epiroc USA plans to expand the video series to cover all equipment offerings, including other rock excavation and drilling equipment, hydraulic attachments, underground machinery, tools for surface and underground applications, and automation technology solutions.

www.epirocgroup.com



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Rokbak Continues US Expansion By Teaming Up With ProSource Machinery

Scottish articulated hauler manufacturer Rokbak has announced the appointment of a new North American dealer, ProSource Machinery. The new dealer will represent Rokbak in Colorado and Montana and will receive its first machines in the next few weeks. Specializing in articulated haulers, Rokbak offers two models: the 31t payload RA30 and the 42t payload RA40. Headquartered in Denver, Colo., ProSource Machinery has offices in Billings, Mont.; Platteville, Colo.; and Williston, N.D. As a representative of other equipment brands, all ProSource locations support customers with parts, servicing, and heavy equipment.

"My company was founded on the core principles of great customer service and quality products for our customers," says owner Derek Dicks, who launched ProSource Machinery in 2014. "Rokbak is manufacturing some really awesome new products and there is huge interest in what the company is now offering to the US hauler market. With the

demand we are seeing there's sure to be a lot of interest in these new haulers."

Robert Franklin, Rokbak's Director of Sales, Americas, adds that ProSource Machinery covers an important territory for the company.

"ProSource Machinery is an experienced dealer with an excellent reputation," Franklin says. "We are looking forward to a long and productive working relationship together."

Dicks has always had a love for machinery. He began his career as a heavy equipment mechanic, working his way up the ladder over the course of 25 years at a heavy equipment corporate dealership. During this time, he saw opportunities to create a distribution company that could be made differently and perform better. He started ProSource in a spare bedroom at his home, with his daughter as his only employee. Today, ProSource Machinery has 23 employees and serves a variety of industries across the region.

www.rokbak.com

Roy Johansson 1951-2022



demolition in Sweden but moved in 1984 to Port Chester, N.Y., outside New York City. For the next 36 years, he and colleague Mitch Schumer operated Robo Breaking, which helped introduce demolition robot technology to the U.S. market. Roy and his company were involved in working on projects such as the rehabilitation of the famed Lincon Tunnel beneath the Hudson River.

In 2021, at age 70, Roy decided to return to his old homeland and settled in Fjällbacka, Sweden. Last summer, PDA magazine had the privilege of meeting him on the boardwalk there and talking old memories. Roy was an amazing person with a big heart and always took time with his fellow human beings. We will remember Roy with great reverence and gratitude in the person he was and what he has done for both the Swedish and American demolition industries. It was a great privilege to get to know him, and those memories that will be cherished for years to come. Our thoughts are with Roy's family, children and grandchildren, siblings, and everyone else whose life was made that much better by having known him. Rest in peace Roy.

It is with great sadness that we announce the passing Roy Johansson, of one of the really great legends in the demolition industry in terms of work with, above all, demolition robots.

Born in 1951, Roy grew up in Västerlanda, Sweden. For the past 30 years, PDI and PDA magazines have spotlighted Roy's work on several occasions. He possessed a unique knowledge of the demolition robot technology, and was one of the great Brokk operators of all time.

Roy worked for a number of years with

--Jan Hermansson, Editor-in-Chief

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Light weight, easy to fit blade guard

Best protection and handling



"A True Lo

in the US Demolition Industry

Although the demolition industry sometimes can seem tough and raw, the most beautiful stories sometimes appear.

It all started 2015 with the demolition of the historic Greystone Psychiatric Hospital in Morris Plains, NJ. Northstar Contracting was hired to do the demolition, with superintendent Michael Casale overseeing the job.

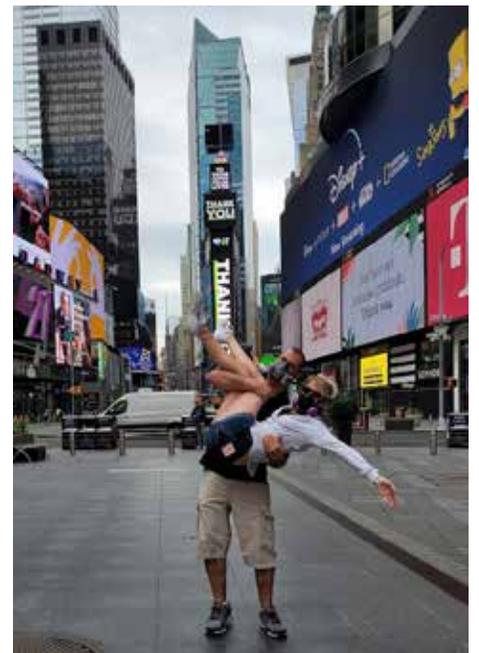
Due to the hospital's long history, several activists frequently protested the demolition. People were at the site daily with cameras and signs hoping to stop or at least slow down the process. On one sunny afternoon early on, some of the heavy equipment operators noticed a drone flying overhead. Casale took it upon himself to address the drone operator, especially since she was a tall, pretty blonde who he later found out was named Jody Johnson, or as she signed her drone videos, "Glide By JJ."

Mike's demolition team and Jody's drone photogra-



Picture from the wedding.

Almost nothing left of the former psychiatric hospital.



The wedding couple on Times Square, NY.

ove Story"



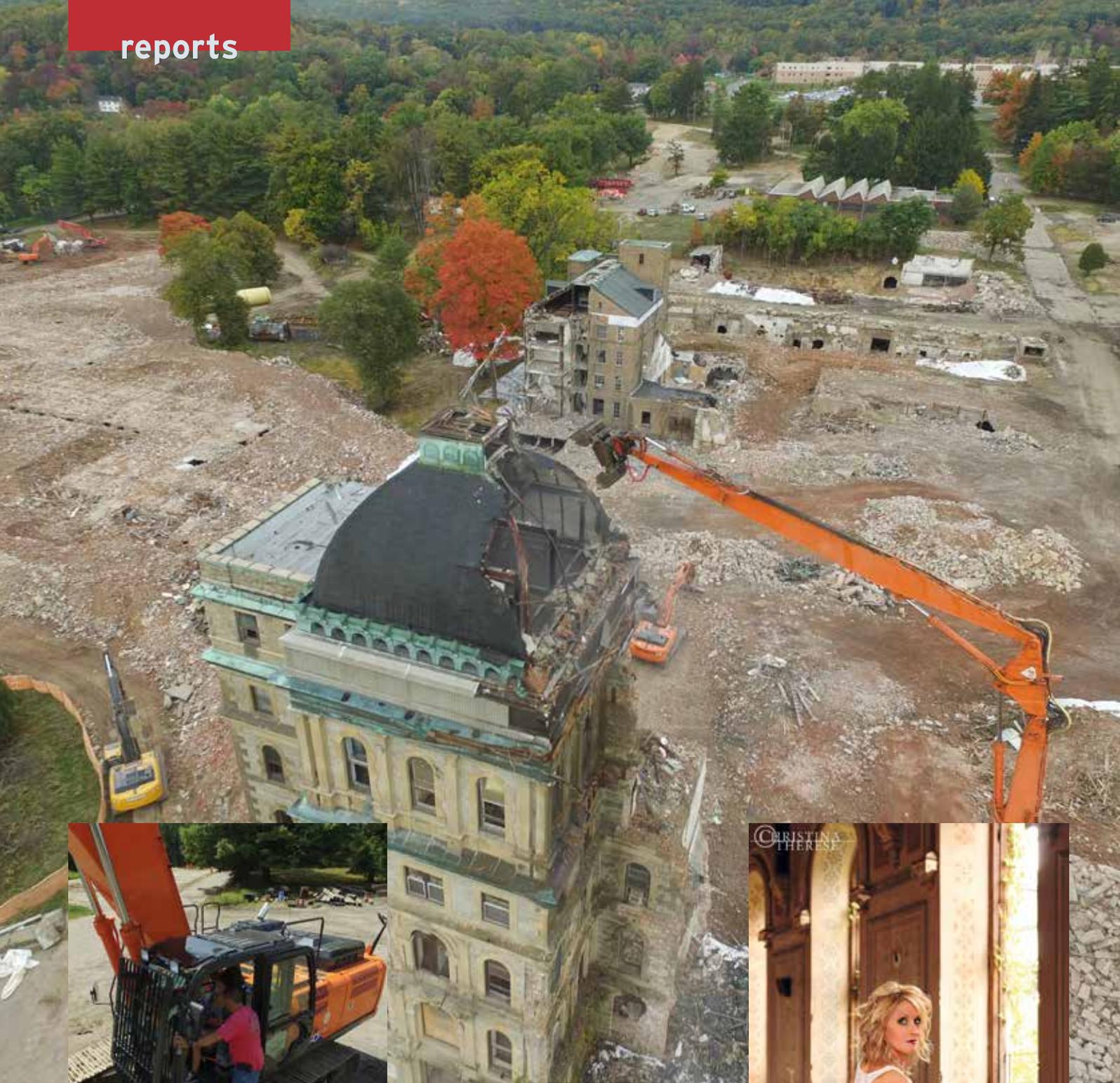
The Greystone Psychiatric Hospital in Morris Plains, NJ, when the Northstar demolition just had started.

phy started getting attention from local and national news outlets including the BBC, NBC News, and others. Aerial photos of the project were showing up on the front page of newspapers and their audience on social media grew.

A year later, Jody's film documenting Greystone's demolition, won first place in the architecture category in the New York City Drone Film Festival held at the Directors Guild Theater in New York City. And sitting next to her when she won, was Mike Casale.



Some press clips about the demolition of Greystone Psychiatric Hospital.



Operating instructions.

Inseparable

That's because during the preceding 12 months, Jody and Mike became a couple. They continued to travel, dine, and date for several years. Both were parents, and their children grew to feel like siblings. The two became inseparable to the point where Mike's daughter joked

Demolition work in full operation.

that Jody couldn't go to the store or even to another room without Mike wanting to be right there with her.

In 2021 they took several vacations together including a trip to Punta Cana in the Dominican Republic, where Michael proposed. On January 1, 2022, they demolition site lovebirds were married. The wedding that included a hard hat with a wedding veil as well as personalized hard hats for their new family of five... and they are all living happily ever after.

PDA magazine thanks Ashley Johnson, Jody's daughter, for sharing this one-of-a-kind love story and providing photos. She adds that Michael's company has demolished a huge number of buildings throughout New Jersey, New York, and Connecticut—many of which Jody documented with her drone. The videos are posted at her Instagram



The bride in her right environment.

accounts @demodudeksal and @glidebyjj.

Jody's award-winning film that brought the couple together, along with her other videos can be viewed on YouTube. Just search for glidebyjj.



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DYNASET.COM

Atlas Copco Hybrid Power Solutions Take Sustainability to New Levels

Energy storage solutions featuring long-life, low maintenance, and high-density Lithium-ion (Li-ion) batteries working in hybrid mode with diesel-driven generators are the perfect solution for companies operating in demanding and noise-sensitive applications like metropolitan construction and events. These hybrid power solutions help them meet the toughest sustainability targets while achieving maximum levels of productivity and efficiency. Ideal for high-demanding applications that require a continuous flow of clean and quiet energy, Atlas Copco's range of Energy Storage Systems offers users 40,000 hours of uninterrupted operation and an overload capability of 150%. These units can operate autonomously for up to 12 hours and rapidly recharge in 1.5 hours. And its first-in-class Lithium-ion batteries are capable of working in temperature ranges of -4 to 122°F (-20 to 50°C).

Nearly 70% more compact and lightweight than traditional alternatives, these Energy Storage Systems can achieve a completely green solution while operating in island mode, registering zero CO2 emissions and zero noise. When working in hybrid mode, together with a generator, they optimize the solution, reducing noise levels and fuel consumption. This makes the seven-model ZenergiZe Energy Storage Systems range particularly suited to urban environments with noise level restrictions, events, telecoms, and rental applications. Operators can now work with minimum downtime for extended periods, including well into the night if required. Additionally, Atlas Copco's Energy Storage Systems can store and deliver energy from renewable sources, like solar or wind.

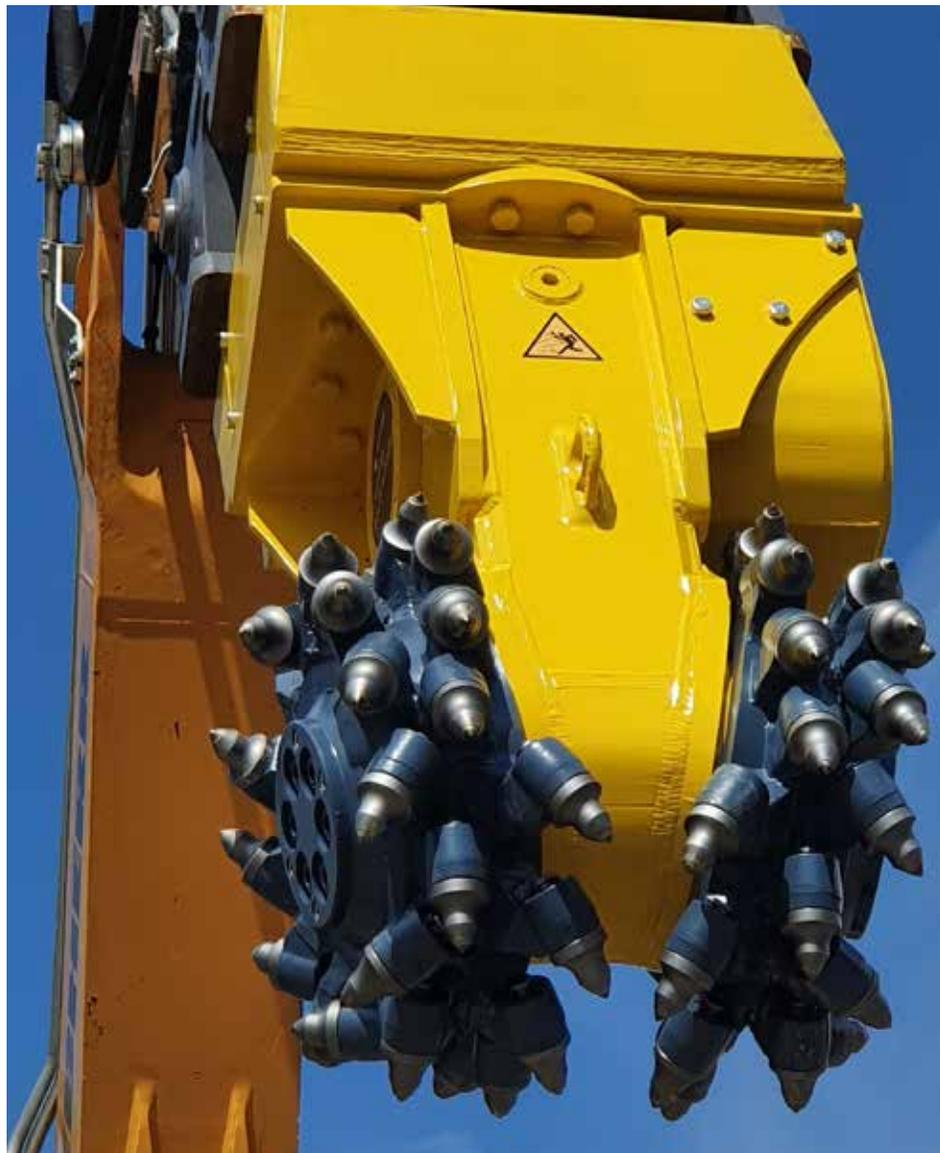
Offering the most efficient hybrid alternative to using a large generator for variable loads is combining Atlas Copco's Energy Storage Systems with the company's latest QAS+ Stage V-compliant diesel generators. This approach optimizes generator performance, extends its lifespan by up to 15%, and cuts maintenance and overhaul requirements in half. At the same time, the QAS+ generators feature a built-in power management system that enables rapid and efficient paralleling, ensuring optimal fuel consumption levels and eliminating the need for generators to run with low load levels.

In addition, the QAS+ generator range is, on average, 5-8 dBA quieter than comparable generators and can reduce noise levels by up to six times, depending on the application and the load profile. With a footprint up to 25% smaller than its peers, the QAS+ is easy to transport and use on-site, offering straightforward plug-and-play connectivity. The generator also features a smart variable-speed fan that adjusts the cooling flow to specific requirements, contributes to superior levels of fuel efficiency. Other features of the QAS+ include a user-friendly touchscreen, up to eight sockets, a terminal board, and optional power locks. While the hybrid solution offers optimal benefits to operators, Atlas Copco's Energy Storage Systems can run with any generator. A single generator can be used with multiple battery-driven units.

www.atlascopco.com/zenergiZe



Epiroc Introduces V Cutter



The reliability, robustness and ease of use of the Epiroc drum cutters have been taken to a new level with the VC 2000. Thanks to its namesake V-shaped design, the VC2000 enables a cut with a flat base, leaving no material untouched between the drums.

Where a regular drum cutter must move side to side to create an even trench, an approach that causes extra wear on the carrier arm, the VC 2000 can reach the same result by just going straight. It basically works like a bucket, which makes it easier to use, friendlier for the carrier, and a significantly time- and energy-consuming. In fact, the VC 2000 boasts energy savings of up to 40% compared with conventional drum cutters.

"The efficiency issues connected with trenching have been met with advanced, but expensive solutions, says Gordon Hambach, Epiroc's Global Business Manager for Hydraulic Attachment Tools. "We're pleased to present an alternative that will save time and money in virtually every aspect, from investment to energy and wear on the carrier. And it's all achieved by the angles of the drum."

All the distinguishing features of classic Epiroc drum cutters are included in the VC 2000—robust spur gears, adoptable high torque gear motor, and the QuickSnap retaining

system for fast and easy pick changing. The new model even comes with the Pro bracket, which leads all hydraulic hoses through the center of the extension arm and out of harm's way. Mechanical and hydraulic rotatable brackets are also available as well as dust preventing water spraying system.

HATCON, a monitoring system that keeps track of operating hours, location and service intervals and presents that data on virtually any screen via MyEpiroc is another option that will increase the overall effectiveness.

www.epiroc.com/ThinkV





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Aquajet Highlights Ergo System at IFAT 2022



Aquajet made its debut at Germany's IFAT trade show to introduce its Ergo System, an innovative industrial cleaning solution to the water, sewage, waste and raw materials management industry. The Ergo offers four times the power of a hand lance and provides maneuverability and power through remote operation to keep workers out of harm's way during hazardous cleaning applications.

Using a number of productivity-enhancing attachments, the Ergo System can be operated remotely for efficient cleaning and removal of material in boilers, tanks, pipes and other industrial containers, and conduits.

The Ergo System incorporates the controller unit, which powers and controls the hydraulics, the Ergo Power Head, which manipulates the high-pressure lance, and either the spine or the climber, which are unique systems used to support and maneuver the power head, based on project needs. The climber attaches to any standard scaffolding or pipes and robotically moves along it to deliver powerful Hydrodemolition forces to remove material.

The Ergo System also works with Rotolance attachments for improved capabilities in confined or hard-to-reach places. The Ergo Rotolance 130 and 130S work at pressures of 14,500-43,500 psi (1,000-3,000 bar) and offer a variety of nozzle configurations for a spray pattern diameter of 1.2-5.1 in (30-130mm).

The system exerts an impressive 225 lbf (1,000 N) of reaction force, as much as four times greater than a human operator with a hand lance. This means the machine can effectively clean and remove concrete, rubber coatings, paint, rust, plastic, and other materials as well as roughen surfaces for better bonding faster than traditional methods, making it ideal for resurfacing applications in tanks, reservoirs, and other containers.

Hydrodemolition robots, such as the Ergo System, consistently remove decayed concrete and built-up materials to a preset depth. Alternatively, a hand lance will likely leave inconsistent depths due to operator inefficien-

The Ergo System also works with Rotolance attachments for improved capabilities in confined or hard-to-reach places.



Aquajet's Ergo System provides the maneuverability and power to keep workers out of harm's way during hazardous industrial cleaning applications in oil, gas, petrochemical, refractory, nuclear and other industries.

cies and inaccuracies. This means contractors may have to do another pass to completely remove materials or risk damaging underlying surfaces by being too aggressive.

Contractors can easily move the 271-lb (123kg) Ergo Controller unit around the facility or worksite and over soft or rough surfaces, due to the wide wheels and low ground

pressure. At just 44 in (11.7cm) tall and 17 in (43.2cm) wide, the Ergo Controller transports easily on a pallet. Additionally, the system is service friendly with hydraulic hose multi connectors that are 100% sealed from moisture to virtually eliminate the risk of leaks during transportation.

www.aquajet.se

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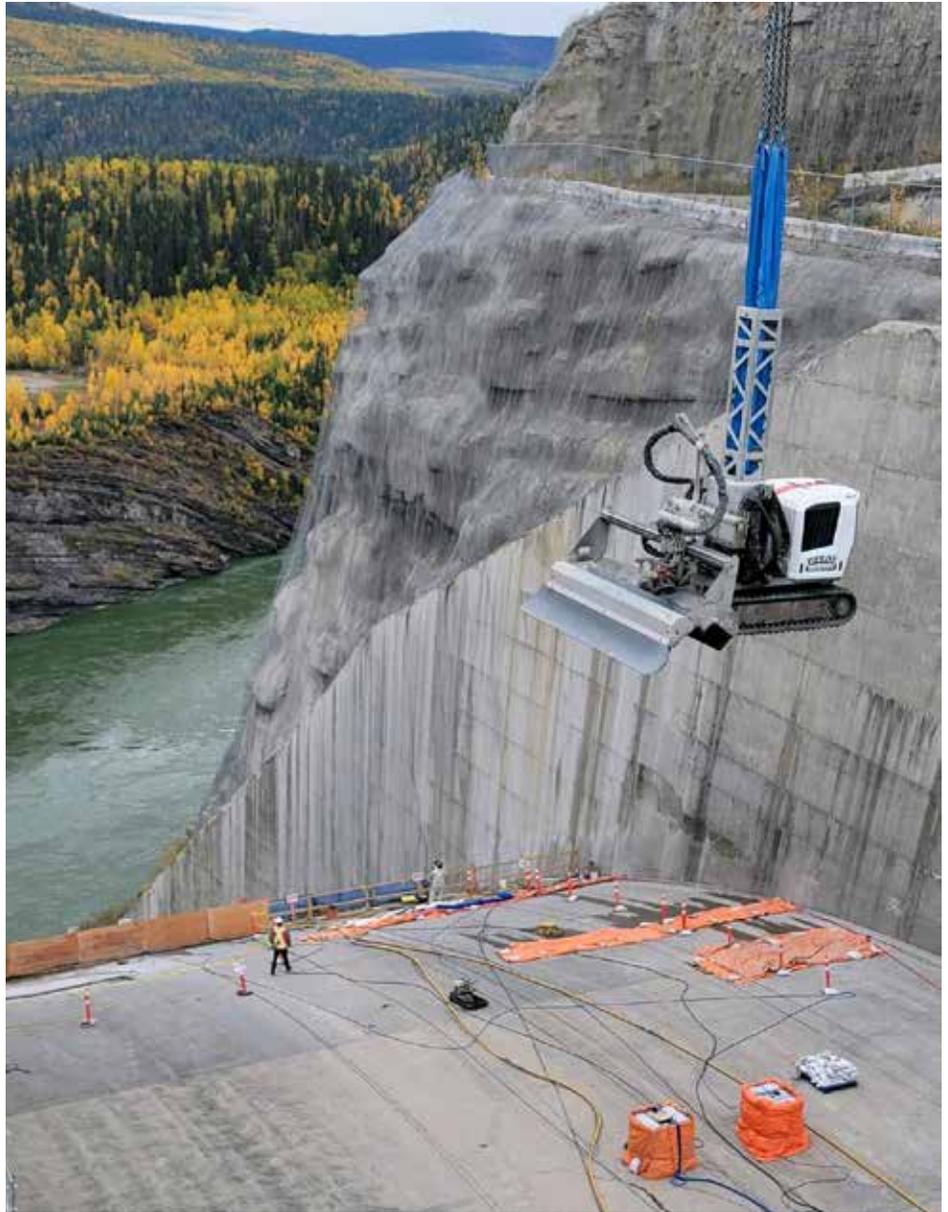


Aquajet Offers Innovative Solutions For Hydropower Applications

Aquajet offers a lineup of cutting-edge Hydrodemolition equipment for concrete repair and restoration in hydropower applications. Paired with the highly versatile Aqua Spine, Aquajet's Aqua Cutter 710V hydrodemolition robot increases productivity and safety for challenging concrete removal and surface preparation tasks on spillways, dam faces, intake structures, tunnels, gates, draft tubes, tailraces and locks. Robots can also be used for penstock cleaning and coating removal. Additionally, the company's innovative Ecosilence 3.0 high-pressure pump, and EcoClear water treatment system round out the system in a compact footprint that meets environmental regulations.

Hydrodemolition is an impact-free concrete removal method that eliminates the risk of microfractures. This helps ensure stability of the overall structure — an important consideration in water management applications — and provides a sound foundation for concrete repairs. Hydrodemolition offers an automated solution that is faster and reduces labor. It's up to 25 times faster than jackhammers and other handheld equipment, greatly increasing productivity for large-scale concrete removal projects. Using high-pressure water jets as powerful as 40,000 psi (2,758 bar), the Aqua Cutter 710V hydrodemolition robot blasts away layers of concrete, cleaning and descaling rebar in the process. The model, one of Aquajet's largest, offers exceptional horizontal, vertical, and overhead reach — as high as 23 ft (7m). Aquajet's unique cutting head and multi-axis 3D positioning systems allow for efficient removal on even the most challenging areas including corners and spaces that would be difficult to access with hand tools. An optional extension kit system further increases versatility and area of operation. The kit extends reach for vertical and side-to-side applications about 5-8 ft (1.5-2.5m) to help operators access hard-to-reach areas.

Additionally, contractors can use an Aqua Spine for concrete removal in areas that are inaccessible to Hydrodem-



Aquajet's Aqua Cutter 710V Hydrodemolition robot increases productivity and safety for challenging concrete removal and surface preparation tasks on spillways, dam faces, intake structures, tunnels, gates, draft tubes, tailraces and locks. Photo courtesy of Walco Industries.



Contractors can use an Aqua Spine for concrete removal in areas that are inaccessible to Hydrodemolition robots. This multi-modular system features a single feed beam to ensure adaptability to different applications. Photo courtesy of Beartooth Water Jetting and Video Inspection.

olition robots. This multi-modular system features a single feed beam to ensure adaptability to different applications, and is ideally suited for hard-to-reach corners and curved surfaces where it can replace the use of manual labor. The modular system can be anchored to the concrete surface (e.g., floors, walls, or ceilings), and held in position with hydraulic platforms, cranes, and scaffolding for increased versatility. Adding or removing spine beam sections results in an infinitely adaptable support system.

To further improve operating efficiency, contractors can use the 710V and Aqua Spine with the company's innovative EcoClear water treatment system. The compact, fully automated system treats the Hydrodemolition wastewater on-site and

on-demand. It moves as much as 5,283 gallons (20 m³) per hour, through a series of treatment chambers that reduces pH to 7.5-8.5, and suspended solids to 20-40 mg/l. This allows for safe recycling and reuse during the process as well as safe release into sanitary sewers, storm drains or directly into the environment. The system can be set up in less than four hours and requires minimal oversight during operation for optimal crew utilization. It also allows for the reuse of blast water in the high-pressure pump as part of a closed-loop system. In this way, contractors can recycle the water, resulting in significant time and resource savings on remote or environmentally sensitive jobsites.

www.aquajet.se

Husqvarna's New Range of HEPA Dust Extractors

Created to compliment projects with grinders, power cutters, drill motors and other light construction equipment, Husqvarna Construction's new range of five HEPA dust extractors—including two battery-powered models—are designed to contribute to a healthier working environment while increasing productivity.

All five models in this new range comply with the latest HEPA standards for heavy-duty dust extractor usage. Equipped with EN1822 certified HEPA 13 filters, the machines feature a new e-flow technology that enables continuous high performance. A redesigned filter cleaning mechanism also ensures the cleaning process can be done simply by closing the inlet and pressing a button. A cost-efficient, improved LONGOPAC® dust bag attachment system in combination with long filter lifetime delivers low cost of ownership. Lightweight yet robust construction, ease of maneuverability, and lockable wheels make moving between sites and floors simpler and safer with less strain on the operator. Other features include improved HMI for easy on-site trouble shooting, fast hose connection, an integrated inlet cap, and a smart dust cap that helps reduce exposure to dust.

The new range includes two battery-powered models (PACE and i-series) that offer the same features as corded



models with the extra convenience of cordless operation. As well as making them quick to set up and start using, no power grid connection is required, optimizing working time and versatility.



Together with a comprehensive series of accessories and Husqvarna Fleet Services™ including geo-location info, predictive maintenance and wireless updates, the all-round benefits of the range represent true business value.

www.husqvarnacp.com

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 <https://www.youtube.com/user/HusqvarnaCP/>

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COUNTER



The coronavirus pandemic knocked the construction equipment industry and other facets of daily life for a loop, leaving the sting of lost friends and family members that will never fade. But thanks to vaccines and other measures, the industry up off the mat and throwing some powerful hits of its own. That includes hydraulic breakers and handheld hammers that help contractors turn even the mightiest of concrete structures into more manageable morsels, or create channels for building systems, reinforcement, and other features to enhance both their form and function.

Other products are sure to join this segment in the coming months and years as more manufacturers regain their footing in the post-pandemic world. But why wait for that proverbial "second bird in the bush," when these new products are available and ready to get to work!

Promove's Hammer goes Digital

Having manufactured hydraulic demolition equipment in more than 50 countries for more than 30 years, Promove of Molfetta, Italy, is the expression of Italian "creative know-how." Now, Promove has introduced the innovative e-Breaker™ system, which allows remote monitoring and control of equipment in real time. e-Breaker™ enables owners and managers of fleets to know exactly where their equipment is and how it is being used, and allows them to maximise and optimize the production

by tracking the hammers' productivity.

Users can access information via a web application on their PC, Smartphone, or tablet to keep track of the total working hours of the hammer, schedule service and maintenance interventions, get real-time visualization of the equipment's last 10 positions, prevent theft by receiving alerts of unauthorized movement, and keep records of the maintenance interventions carried out.

The innovative e-Breaker™ system is available on the XP Line of Hydraulic Hammers which has been designed to make the work easier thanks to the high performance delivered. Blank firing prevention system ensures that the hammer cannot be operated until pressure is placed on the tool. It also protects the tool from failure and tie rod stress, reduces oil overheating, and protects against premature failures decreasing both operating and maintenance costs.

The XP series boasts an energy recovery, a power/frequency automatic regulation system. The innovative smart valve with the "plug and play" feature allows users to install the breaker without having to adjust any settings on the excavator. In addition to significant time and cost savings, this feature eliminates future problems such as premature breakages due to extra flow. This system also allows the breaker to be moved to various machines, making it easier to rent equipment. For those looking to match a hydraulic breaker with a mini excavator, consider Promove's five-model light range, which weigh 132.2-948 lb (60-430 kg).

Promove is also pleased to announce some innovative enhancements to the XP line. The new 364-lb (165kg) XP 151 replaces and improves the old XP150.

It is designed specifically for jobs that require greater delicacy and collateral damage control, offering incredible versatility thanks to its constitutive technology. Shock protection absorbers, mounted above and below the hammer body, avoid vibrations and damage to the excavator arm. The nitrogen valve is easily accessible for faster and more efficient gas control or for refill operations. A low-pressure chamber improves the energy at each blow and, together with the increased diameter impact mass, produces a more powerful blow.

The real new addition to the family is the 8,378-lb (3,800kg) XP3800, which places itself between the XP3100 and XP4500, offering a perfect fit for excavators in the 37-60t range. Applications such as tunnelling and underwater work will be an easy game for this little giant, thanks to its tool diameter of 6.7 in (170mm) and an impact energy of 10,695 lbf (14,500 J), making it one of the most powerful hammers on the market for its weight. Moreover, like its XP "colleagues," it is equipped with anti-blank firing system, impact force regulating valve, easily accessible valve for nitrogen charge and control, automatic greasing system, shock absorbers to reduce vibrations and stresses on the supporting arm, spurs made of Hardox, and special anti-wear plate that makes this breaker indestructible.

www.promovedemolition.com

Caterpillar introduces two new Cat Performance Series Hammers

Built for high production on large excavators, the new Cat H190 S and H215 S Performance Series hammers de-



R • PUNCH

liver consistent breaking power. Their extremely efficient operation cycle results in less waste from internal heat for more power delivered to the tool. With piston and tool matched in diameter and mass, these new hammers offer increased power transmission frequency. Operators can switch power mode from high frequency/low power to low frequency/high power, giving the ability to fine tune power to the material being broken.

While powerful, the new H190 S and H215 S hammers lead in operator comfort and machine protection with their proprietary buffering material that dampens vibration feedback to the carrier. Automatic shut-off that prevents blank firing and hammer damage can be temporarily turned off for horizontal and overhead operation in tunneling and mining applications. The flexible hammers can be configured for joystick or pedal control to suit the operator's preference when working in quarry, demolition and general construction applications. Auto Stop instantly terminates hammering when the tool breaks through material, preventing damage to both the carrier and hammer.

Next-gen excavators automatically recognize the H190 S and H215 S Hammers and prompt operators to select the correct tool program. Protecting the cab and keeping the attachment in predefined operating areas at the jobsite, the new hammer dimensions are included in Cat E-Fence technology. Through the Cat excavators Product Link™ technology, users can quickly locate the hammer attachment using the Cat App. Hammer pressure and flow rates are viewed on the in-cab monitor and can be configured manually or automatically using the touchscreen display.

All daily checks and routine service can be performed without removing the new H190 S and H215 S Hammers from the carrier, saving time. Steady internal gas pressure throughout the duration of the annual service interval eliminates the need for frequent charge inspection. The lower bushing's rotatable design optimizes service life to minimize parts costs, while the bushing can be quickly serviced in the field using hand tools.

A standard on-board autolube system provides continual greasing during hammer operation to improve attachment longevity. For operating in extreme environments, an optional wear package protects the hammer housing from damage.

www.cat.com

Dehaco's IBEX GS and HS breakers—two letters that make a world of difference

In 2013, Dehaco launched the IBEX breakers, which have been popular with demolition companies around the world since day one. While the GS series is particularly well known, Dehaco's HS series is proving increasingly attractive alternative to the traditional gas breaker. Each series work in different ways, use different components, and have a different appearance. Breakers from the GS series are perfect for use with excavators from 1,763 lb (800 kg) to 60t, while breakers from the HS series are



makes for a nice and quiet cabin, and reduces wear and tear on the excavator.

HS breakers are particularly attractive on jobs where it is necessary to work for longer periods of time—e.g., in mines, when demolishing building or wind turbine foundations, etc. In addition, HS' breaker's high impact frequency is very advantageous when working in quarries.

www.dehaco.nl



better suited for use with excavators from 30t to 100t.

The gas-silenced GS hammers are suitable for all types of major and minor demolition jobs, either on a daily or occasional basis. Their enormous power results from the built-in nitrogen chamber, which stores recoil energy for conversion into additional impact energy when needed. The nitrogen chamber also ensures that less vibration is transmitted back to the excavator.

The hydraulic-silenced HS breakers likewise boast a number of smart systems that make operators very happy. These include built-in safety features that prevent the breaker from being overloaded. This allows maximum oil supply efficiency and all of the breaker's energy is converted into impact energy. Smart valves ensure that the breaker strikes constantly, which is good for the operator and avoids unpleasant surprises on the job. In addition to requiring less maintenance, the HS breaker's suspension in the cabinet reduces the recoil to the excavator. This



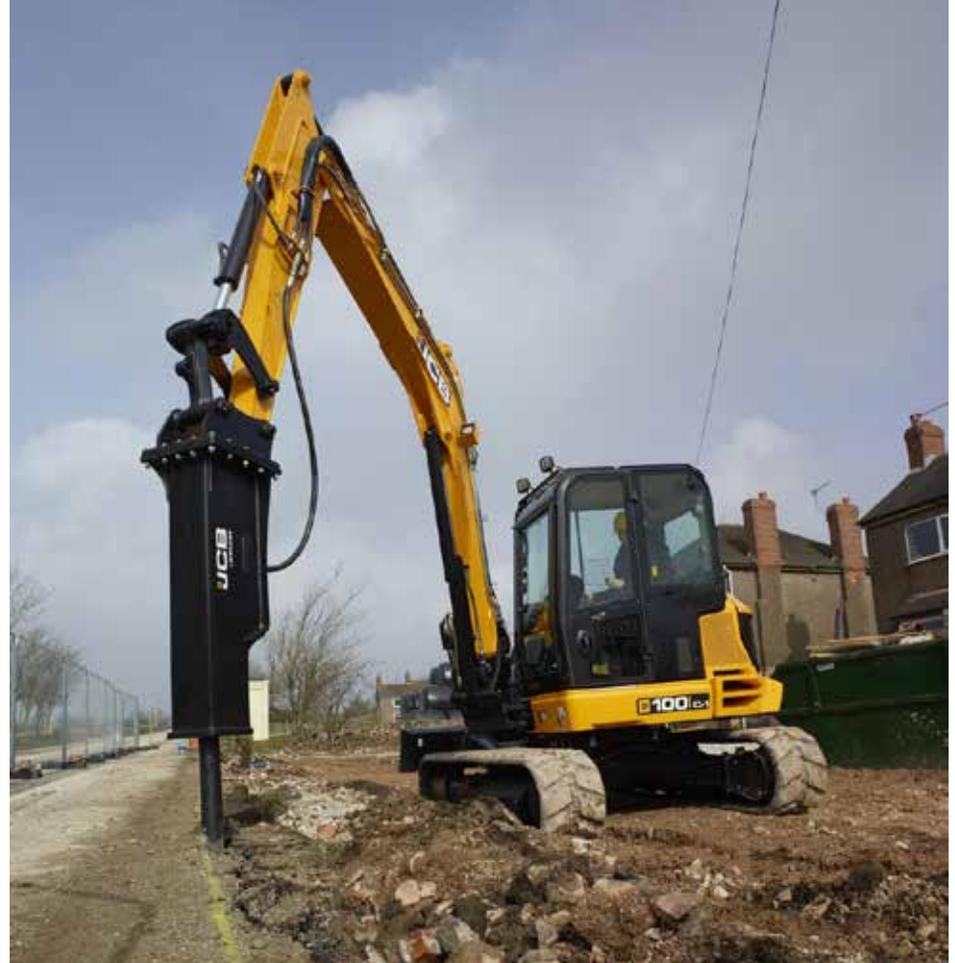
TABE breaker innovations keep coming

For more than 50 years, TABE has designed and manufactured products to serve the construction, demolition, recycling, and mining sectors. Last year, the company launched its new MT 195 breaker for mini loaders and excavators and MT 800, for 11-14t excavators. All feature TABE's signature cylindrical design, monoblock structure, through-bolts, blank-firing protection, minimal maintenance, and longer product life. Options include dust protection rings for all small models, and auto-greasing for larger models. There's more to come this year, as TABE is currently updating the rest of its light breaker range. And this fall, visitors to Bauma will be treated with the debut of the MT 385, an updated version of the most iconic model of TABE's monoblock light range. Whether it's a totally new model or an enhancement to an existing product, TABE's goal is always to offer more efficient breakers that deliver more power with less fuel consumption.

www.tabe-hammers.com

A big year for Montabert

Last year was a very important milestone for Montabert. Along with celebrating its 100th Anniversary, the Lyon,



France-based company also upgraded one of its most famous range—the Silver Clip. Launched in 2004, the Silver Clip range was a major breakthrough, with key features and innovations which has driven the industry since then: no tie rods, floating bushing, single retainer, etc. With tens of thousands of units sold, Montabert has accumulated a huge knowledge and is now able to significantly upgrade this product line.

The new range, named SD, features seven models (6, 8, 12, 16, 22, 28, 36, and 42), weighing from 132 to 1,032 lb (60 to 500 kg) for .7 to 12t machines. In addition to a new design allowing low sound levels for urban environments, the SD range is very tolerant to back pressure, with a smart hydraulic distribution that keeps maximized energy per blow. SD breakers are also compatible with all quick couplers and meet all adaptation requirements for the user's



carrier. For every compact carrier in the market, with any configuration, there will always be at least one SD breaker. These breakers are also the only compact class models on the market with two lifting points, to sling and handle them with perfect balance and safety. As the technology has passed the test of time, the range is backed by a standard two-year warranty, which can be extended by two extra years. Montabert's SD breakers are now available worldwide.

www.montabert.com

JCB's Professional breaker range

The Professional range of breakers from JCB are designed for maximum productivity, reliability, and versatility. A robust housing system provides excellent protection for the owner's investment, while class-leading tool diameters give higher resistance to failures and improve wear rates. In addition, the units' "Q" option provides quieter operation and increased operator comfort, while the permanently sealed accumulator helps reduce service costs. A stainless steel piston eliminates corrosion and offers greater protection to the seals. The Professional breaker range begins with the HM100Q for 1- to 1.8t carriers. Along with an impact energy of 125.4 lbf (170J) and blow rate of 900-1,320 bpm. For the 1.0-3.5t carrier class, there's the HM140Q with an impact energy of 166 lbf (225J), while the HM166Q for 1.9-4.5t carriers delivers an impact energy of 188 lbf (252J). The HM266Q Professional breaker serves the 2.8-6.0t carrier class with 277.3 lbf (376J) of impact energy, while the large-diameter 442.5-lbf (600J) HM386 for 4.5-9.0t carriers makes greater use of the impact energy to increase productivity. Finally, there's the HM496Q for 6.5-13t carriers, which provides an impact energy of 630.6 lbf (855J).

www.jcb.com



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Here are some of the latest new and powerful handheld machines and tools.

AGP launches new line of high frequency electric concrete saws

AGP is launching a new complete line of high frequency concrete saws, including two sizes of hand saw, a ring saw and a chainsaw. The tools all share the same high frequency power converter, so an operator equipped with the full set of saws will be ready to handle different types of cutting tasks. The motors are all based on AGP's permanent magnet synchronous motor technology (PMSM). AGP states that it is the only manufacturer in the concrete saw industry employing this technology. The company also says it has higher operational efficiency, higher torque density and better dynamic performance under load than high-cycle induction motor designs, achieving 90% efficiency at full load. The P8K power converter is water cooled and is designed to support tools up to 8 kW. It can run on both three phase 380-480V and on single phase 200-240 V input, using its 16A adaptor cable. When three-phase power isn't available, the P8K can still operate at 7.4-hp (5.5-kW) power levels with single-phase input if it is directly wired to a 30A or larger

breaker, rather than using the single-phase adaptor cable.

The C406 hand saw provides 6-in (150mm) depth of cut. Like all of the tools in this product line, it features an 8.3-hp (6.2-kW) water cooled motor. It is said to be the most economical of the line to operate, since it is optimized for using 16-in (406mm) diamond blades, which are said to be easy to find at a reasonable cost. It features conversion to flush cutting, guide rollers for perpendicular cuts, and an LED load indicator. The C18 hand saw is the big brother to the C406, sharing the same features, but having an enhanced 6.9-in (175mm) depth of cut. This is achieved using a lower gear ratio and larger guard for running an 18-in (457mm) blade. The R16 ring saw provides 11.8-in (300mm) depth of cut and features AGP's patented ring saw drive mechanism. The AGP design has been developed to enable more accurate drive tension adjustment, minimizing parasitic drag and allowing the maximum power to the blade. AGP believes that its design allows fast blade changes without disassembling the tool. The CS18 chainsaw achieves 18.5-in (470mm) depth of cut and has close to flush cutting capability as well. The chainsaw has the ability to make small rectangular cut-outs with no overcuts and is of use when finishing corners with no overcut.

www.agp-powertools.com

Tyrolit angle grinders for universal applications

In addition to a comprehensively redeveloped and contemporary dry cutting range, Tyrolit is now also launching



two new angle grinder models for construction materials and metals for the first time. The universal angle grinders, AGE125 and AGE230, are compact and ergonomically designed and feature strong motors with high efficiency, soft-start as well as a restart and overload protection. The anti-kickback function switches off the motor if the disc jams. Thanks to the optimized cooling and the elaborate dust seal, the service life of the two angle grinder models is increased.

Adapted to current market requirements, Tyrolit states that its new dry cutting tool range scores with an increased performance by up to 30%, high user friendliness and a new design. Tyrolit states that the advantages of the new dry cutting range are up to 30% more per-



Powerful Handheld Tools Are Here

performance due to new steel cores, segment shapes and setting patterns compact assortment with solutions for every construction material, and enhanced safety features

New battery-powered products by Husqvarna charged with possibilities

During World of Concrete, Husqvarna Construction showcased upcoming battery-powered light construction equipment that will help contractors work without fuel, cords and direct emissions. Opening opportunities to take on new tasks and get the job done — more quietly and with ease.

The PACE battery system—an acronym for Powerful. Agile. Cordless. Electric—was unveiled with the K1 PACE high power battery cutter. With K1 PACE contractors can expect power and performance equivalent to gas-powered cutters with all the additional benefits battery-powered equipment brings to both operators and the environment. The K1 PACE can be paired with specially developed, battery-specific diamond blades. The PACE battery system can be utilized for more machines as the battery-powered family expands in the future.

Husqvarna's new i-series, a family of 36V battery-powered products, is a versatile range of equipment for a variety of different construction applications, and compatible with a broad range of the company's forest and garden products. Some of the i-series products demonstrated at World of Concrete 2022 include:

WT 15i battery-powered water tank. The compact and easy-to-use 4-gal (15-liter) water tank helps contractors work efficiently. It has an electric pump, so there is



no manual pumping required. It has an integrated hose, with a connector applicable for Husqvarna cutting or drilling equipment. The 10-ft (3m) hose gives contractors comfortable distance to the cutting area.

The BV 30i battery-powered screed is cordless and lightweight, operates with low vibrations, and emits no direct exhaust fumes, providing a more pleasant, working environment.

The DM 540i battery-powered drill motor fits in narrow corners, has low weight, and is optimally balanced for easy use. The DM 540i is optimized for handheld drilling most materials, but especially reinforced concrete with diameters up to 3 in (75 mm). It can be mounted on the Husqvarna DS 150 stand to drill up to 4 in (100 mm) diameter holes. The DM 540i can be also paired with Husqvarna's specially developed, battery-specific TW diamond bits,

which will be available soon.

The powerful DE 110i battery-powered dust extractor is compact and easy to transport. This HEPA dust extractor is an excellent match for the DM 540i drill motor as well as other handheld equipment within the i-series 36V platform. It is equipped with a user-friendly HMI, e-Flow that automatically adjusts air flow while securing maximum runtime from the batteries, and high-water protection enables fast and efficient decontamination. The DE 110i will be available later this year.

www.husqvarnacp.com



The Rise of the Demolition Robot



Some of the latest Brokk models.

It all began in Sweden, a country with manufacturers still dominating the market. But over the years there has also been other brands and still are.

The history of the remote-controlled demolition robot has over the years been rather well documented even though many of those how worked in this industry when



The first serie produced demolition robot and Brokk robot. Copyright: Brokk AB.

all started is not with us anymore. Here is a brief story over how everything started and where we are today.

It all began in 1976

The history of demolition robot techniques dates back

to 1976 in the small Swedish town of Skellefteå. A contractor needed a smart machine to remove refractory from a kiln in a nearby smelting plant. To companies in conjunction, PE Holmgren and the demolition contractor Rivteknik, owned by Börje Hedlund, developed a remote-controlled machine and called it initially Mini-Max. The machine was named Brokk, after blacksmith of Norse legends.

The small wheel-driven robot got extremely popular among Swedish concrete sawing, drilling, and demolition contractors, and found applications in the construction, process, nuclear, and cement industries.

For over a decade Holmhed System and its Brokk where the only existing brand on the market and the products was exported to other markets like the US. The product's great breakthrough came in 1983, when it was used in the renovation project of the Holland Tunnel in New York City. In the late 1980s, Holmhed Systems got competition from a new Swedish brand invented by



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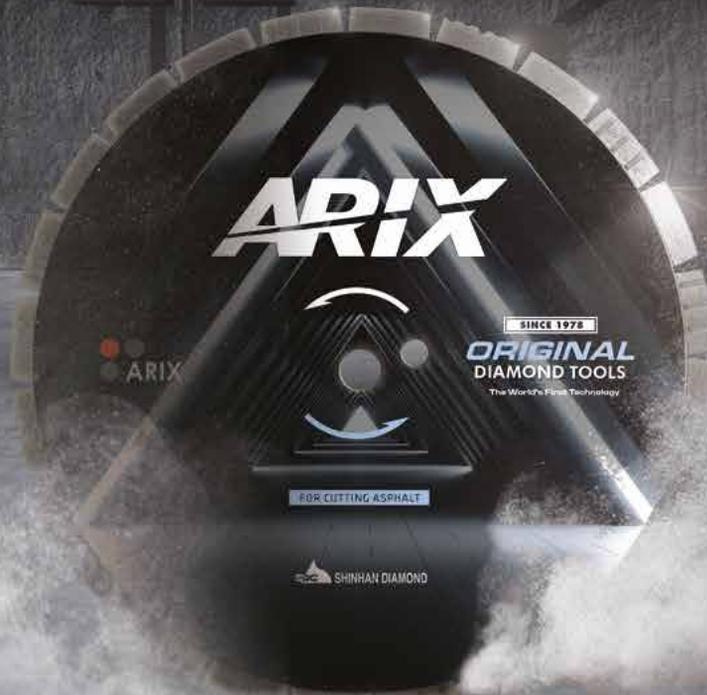
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Two demolition robots from TopTec.

Bert Håkansson in the Swedish village of Själeved. The product was called DMX Maskin. The development and the manufacturing of the machine was in 1994 taken over by the Thordab company in the nearby city of Örnsköldsvik. In 1997 the Thordab brand of demolition robots were acquired by Holmhed Systems. The following year, Holmhed Systems changed its name to Brokk.

TopTec Spezialmaschinen and Finmac Demolition

For decades, Brokk had very little competition from other manufacturers. That would change when the company terminated its distribution agreement with Schweden Maschinen, which had been selling Brokk machines to various industries in central Europe.

Having acquired a great deal of knowledge about various demolition techniques, Schweden Maschinen founded the manufacturing company TopTec Spezialmaschinen to develop its own range of remote-controlled demolition robots. Based in Munich, TopTec Spezialmaschinen now manufactures six different heavy-duty demolition robot models plus a number of stationary machines and special units.

About the same time, Brokk's dealer in Hong Kong, HD Engineering, began to develop its own heavy-duty demolition robots. The first model was released in 2011 at World of Concrete in Las Vegas. However, the production was terminated some years ago.

In 2006 the Finish company Finmac Demolition Oy was founded. The next year, the first Finmac demolition robot—the F 16—was sold through the Swedish dealer Atmos to the Swedish demolition and concrete cutting contractor MSF Håltagning. Manufacturing and sales increased over some years and more models were added. Finmac even made a branded version for US Stanley La Bounty.

Being a small company, however, Finmac found



The Finmac Demolition Robot here in OEM shape for La Bounty.



Four new demolition robots from Husqvarna.

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it hard to compete with Brokk. In 2011, Finmac was sold to the Finnish manufacturer Avant Tecno, which subsequently released an updated version of the Finmac. Production of that robot has since been terminated.

Husqvarna releases robots in 2009

There have been a number of attempts to take up the competition with the Brokk brand, but it is obviously a difficult challenge. So far, the only manufacturer that has succeeded to some extent is Husqvarna Construction Products when they released their first series of the DXR robots in 2009.

As Husqvarna sell a big variety of machines and tools to the professional demolition and concrete cutting contractors, they have taken market shares in the mid-size segment of demolition robots. However, the whole demolition robot sector has grown a lot during the last decade creating more applications for demolition robot use so there are plenty of room for the existing robot manufacturers.

Hansen Engineering from Norway

Over the years, a few other companies have tried their hand at producing remote controlled demolition robots. The Norwegian company Hansen Engineering in Lillehammer launched the RC950 in 2006, but ceased production after a few years.

Chinese demolition robot

The Chinese hydraulic breaker Giant Breaker launched a demolition robot series around 2010. To the best of our knowledge, Giant Breaker robots are still in production, but only for the Chinese market. There are three other Chinese demolition robot manufacturers-- Won, Aolai, and Robot, the latter of which has five models—the 100D, 170, 200, 300, and 520D.

German K-TEG's demolition robot

In 2016, German manufacturer Kiesel Technology and Development Company (K-TEG) launched their KMD-RDC22 robot for demolition in confined and hot spaces. That same year, US manufacturer Alpine introduced the Alpine RDC, believed to be based on the robot from Kiesel. The robot is still in production. The following year, Spanish manufacturer Euro Implementos announced the launch of three models—RDC22, RDC22M-D, and RDC 15.10.



The Akula demolition robots from ES Robotics.

Akula from ES Robotics

In 2019, UK-based ES Robotics launched a series of robots which consists of four machines marketed under the brand Akula—DR125, DR300, DR450, and DR850. They are marketed under the brand name Akula.

That is more or less it in terms of demolition robot brands that the market has been facing since Brokk invented the first model in 1976. What more is to come? The use of remote-controlled demolition robots is still a very narrow sector. If the market would have been larger,

it is likely that some of the large manufacturers of mini excavators and compact loaders would have invested in this sector.

But developing demolition robot techniques are very difficult, time consuming, and challenging. And it takes lot of knowledge. It is believed that large manufacturers choose not to invest in the industry as the market is too small for such a large investment. But with the fast development of the demolition robot sector that we are experiencing today, who knows what will happen?



Two Chinese demolition robots.



The K-TEG (Kiesel) demolition robot.

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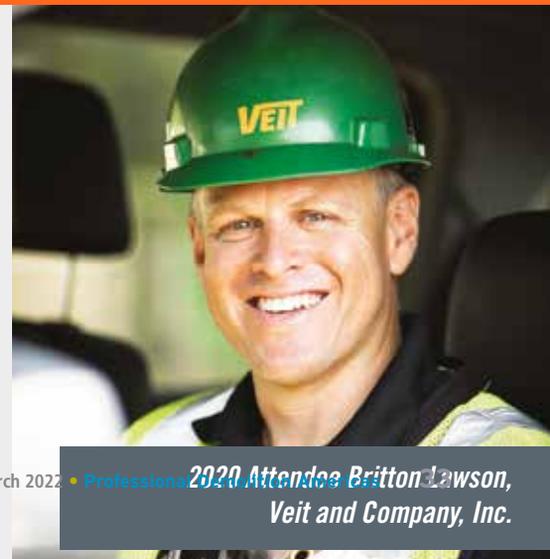
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Hydrodemolition in Oregon State, USA

Versatility is the in Oregon Tunnel

Fun fact: There are 541 highway tunnels in the US, accounting for more than 381 lane-miles of interstate, state and local routes. The majority of these tunnels are between 60 to 110 years old, and combined they carry more than 15.4 million vehicles on the average day.

Unlike the horizontal surface of a bridge, a tunnel typically has a 360-degree surface of concrete that must be regularly monitored and restored if the structure is to last. One example of this maintenance challenge can be found in Portland, Ore., where the city's transportation department is putting the finishing touches on a project to restore the concrete ceiling and vertical walls of the Northwest Cornell Road Tunnel. With the repaired surface covering a total area of approximately 28,800 ft² (2,676 m²), this project illustrates how innovative equipment can be combined with adaptive project execution to maintain the world's tunnel assets.

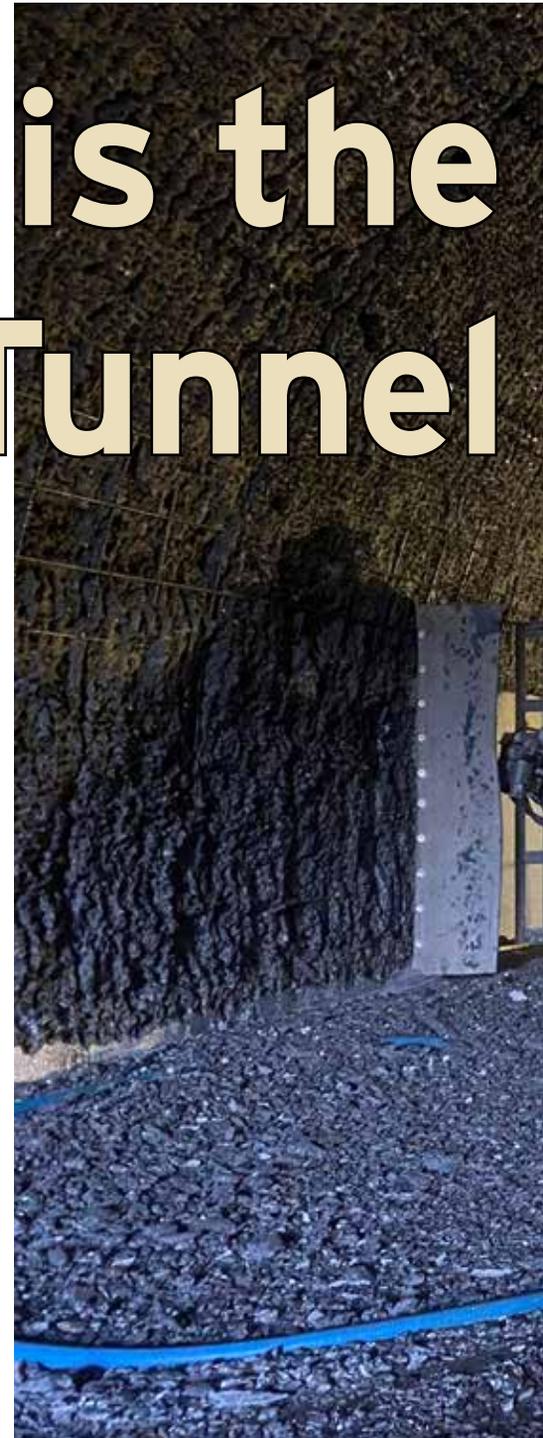
Evidence of Tunnel Deterioration Leads to Restoration Planning

The NW Cornell Road Tunnel consists of two tunnels that were constructed between 1939 and 1941 to support residential development in Northwest Portland. Tunnel 1 is 500 ft (152.4 m) long and Tunnel 2 is 250 ft (76.2 m) long, each containing two lanes. Approx-



The versatility of the Conjet 557 MPA was important, as CCS utilized the Multipurpose Arm for reaching different angles and distances, the extendable tracks for stability, and multiple speed zones traversing the cutting head to ensure an even removal along the curved tunnel radius. Photo Credit: CCS

mately 10,000 vehicles per day use the Cornell Tunnel. After a routine inspection identified a large crack near the crown of Tunnel 1, an in-depth field assessment and subsequent geotechnical engineering report recommended concrete strengthening and re-lining for both tunnels to prevent structural failure and minimize



the future permeability of harmful contaminants. The existing concrete was estimated to have an average strength of 5,500 psi (40 MPa) but varied widely depending on the area.

The project was awarded to general contractor MJ Hughes Construction, which subcontracted the task of removing deteriorated concrete to CCS Industrial Services of nearby Longview, Wash. CCS was confident that, using the Conjet Robot 557 MPA, it could outperform other contractors that would attempt to complete the concrete demolition with jackhammers and breakers.

Hydrodemolition is a process that uses high-pressure water to remove concrete or other surface materials. One Conjet robot can remove the same amount of

Key to Success Restoration



Hydrodemolition is a revolutionary technology for restoring concrete assets because it efficiently and safely removes deteriorated concrete while preserving the remaining structure.
Photo Credit: CCS

concrete as 25 or more jackhammers. Hydrodemolition is also safer than competing technologies; operators are not exposed to silica dust or vibrations that are present with jackhammers and roto millers, and they can stand a safe distance away from the robot as it operates.

And, hydrodemolition is the most sustainable method for structural preservation, as it does not create microcracks in the remaining concrete, pull-off tests show that a hydrodemolition-prepared surface forms a 2.5x stronger bond with the new concrete overlay compared to the same surface that has been prepared with a jackhammer. This extends the structure's useful life and reduces concrete consumption. In addition, hydrodemolition preserves and cleans the rebar reinforcement whereas jackhammering and roto milling

damage the rebar and require significant replacement.

For the Cornell Tunnel project, CCS and MJ Hughes planned to recycle the concrete slurry wastewater produced by hydrodemolition operations. Reusing the wastewater for additional blasting reduced total water usage and disposal costs.

Another benefit of the Conjet 557 robot would be its Multipurpose Arm (MPA), which allowed CCS to quickly and easily relocate the robot's cutting head to remove concrete from different angles and reaches on the overhead crown and vertical sidewalls.

Construction Begins, But Unknown Conditions Cause Plans to Change

Sitework began in September 2021. Tunnel 1's project

specifications called for a 14 ft wide x 2 in deep (4.3 m x 5.1 cm) strip to be removed at its crown for the entire length of 500 feet (152.4 m). The removed concrete would be replaced with Shotcrete to seal and preserve the Tunnel's rebar reinforcement beneath the surface.

Tunnel 2 had experienced more severe deterioration than Tunnel 1 over the years. As a result, the project engineers initially planned to use hydrodemolition to cut 12 in wide x 12 in deep (30 cm x 30 cm) ribs every 7 feet for increased structural stability. In addition, the plan called for the top 2 inches of the entire overhead area and vertical walls, totaling 14,000 ft² (1,300 m²) to be removed and replaced with new concrete.

Finally, in Tunnel 2 a new mat of #3 rebar would be added to the entire removed surface area, covered



Tunnel 2 restoration work was performed in phases to create new structural bracing, while also maintaining the Tunnel's integrity during construction. Photo Credit: MJ Hughes Construction

with mesh, and filled with Shotcrete. The #3 rebar mat would create a new reinforcement system to replace the original rebar which was damaged by the concrete deterioration and resulting permeability.

CCS quickly mobilized its equipment and began removing the concrete. Tunnel 1 demolition operations went quickly and according to plan.

As CCS began removing concrete on Tunnel 2, however some unexpected challenges arose. It was discovered that not only was the concrete extremely deteriorated, the thickness was also very inconsistent, ranging anywhere from 8 to 24 inches (20-61 cm) depending on the location. As a result, the original plan to cut 12 inches (30 cm) deep and place new concrete to form structural ribs had to be abandoned.

Rather than installing ribs, the city's engineering

team decided to pivot to a new structural strengthening approach that involved cutting thicker, 6 in deep x 100 ft long (15 cm x 30 m) panel sections. Each panel section would have a reinforcing mat of high-strength #6 rebar. To maintain structural integrity while during this process, each panel section would need to be cut to the proper depth, replaced with rebar and concrete, and cured before work could begin on the next section.

CCS got to work executing the new project specifications for concrete removal. Using the ConjetONE control system, CCS was able to easily adjust the parameters of the 557 MPA to cut at different speeds across the cutting head, ensuring a 6-in (15 cm) deep removal, even across the curved crown of the Tunnel. The MJ Hughes team then came back in and installed new rebar and mesh, filling in the new reinforcement system with

Shotcrete. The revised construction plan was executed successfully, and the concrete repairs were completed in April 2022. The Cornell Tunnel restoration project is a great example of how skilled contractors and engineers can deploy cutting-edge hydrodemolition equipment to preserve vital concrete infrastructure, regardless of the unexpected challenges that may arise in the process.



A new layer of Shotcrete was installed which will seal up the rebar and protect it against penetration of harmful contaminants for many years to come. Shotcrete, also known as gunite or sprayed concrete, is concrete or mortar conveyed through a hose and projected at high velocity onto a surface. Photo Credit: MJ Hughes Construction



The Tunnel 1 renovation plan called for a 14 ft wide x 2 in deep strip to be removed at its curved crown for the entire length of 500 feet. Photo Credit: CCS

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Breaker Basics

"Four Quick Steps Toward Increased Uptime"

By Jeff Keeling, Vice President of Sales and Marketing, Brokk Inc.

The hydraulic breaker attachment — one of the most common attachments for a remote-controlled demolition machine — generates as much as 1,500 lbf (6,672 N) of force at its tip. Typical wear and tear is expected, which is why keeping up on breaker maintenance is vital to ensure optimum performance on the jobsite.

"Operators often overlook breakers, so they might not receive the proper time and attention they deserve in a maintenance regiment," said Keith Becker, managing member of Becker Equipment Company LLC. "To get the most out of their investment, operators should consider the breaker as another piece of equipment with its own service schedule rather than a simple attachment, such as a bucket scoop. While the breaker requires the machine's hydraulic system to provide the pressure to run, it is just as important as the machine itself and requires regular servicing."

Ready to begin servicing, but not sure where to begin? Following these four simple steps will go a long way toward achieving increased uptime and maximum breaker life.

Step One: Choose the Right Grease

Not all grease is the same. Look for a chisel paste that can withstand temperatures as high as 450° F (232° C). Keep in mind, if grease is running down the tool, it's most likely not correct. Proper greasing minimizes metal-on-metal contact to prevent the tool from overheating, which can prematurely wear tool steel, damage bushings and ruin hydraulic seals. Using standard grease may save nickels and dimes now, but could eventually cost time and money by requiring more frequent greasing. And if the tool steel isn't properly lubricated, users will see added costs in tool steel replacements.

Some companies offer a durable, molybdenum-based chisel paste. This paste contains small copper and graphite

particles that roll up like ball bearings between the tool steel and working bushing. The paste is also more viscous than standard lubricants, which allows it to remain between the steel and bushings and provide better lubrication for longer periods than using grease alone.

Step Two: Lubricate Appropriately

It's one thing to have the right grease, but quite another to use it correctly. Greasing before and during operation also is part of proper breaker maintenance that reduces equipment wear.

To lubricate a breaker, apply pressure on the tool steel to verify that it is pushed all the way into the breaker. Inject grease into the breaker's lubrication points using a grease gun, until it exits the bottom of the breaker. This ensures the void between the bushings and the tool steel is filled and new grease displaces any remaining grease that might contain dust or debris. Some manufacturers recommend adding grease every two hours when a breaker requires manual greasing or if the operator sees shiny slivers of metal on the tool steel.

Some breakers have automatic lubrication systems that keep tool steel properly lubricated, but those systems still need daily inspections to ensure there is adequate grease in their vessels.

Step Three: Check the Bushing

Even with the best lubrication, replacing the wear bushings is inevitable. Measuring the wear of the bushing is essential to maintaining a reliable breaker, and it's not always necessary to take the machine apart to do so. Instead, use a 3/16-in (4.76mm) drill bit and try to slide it between the tool and bushing. Typically, about 1/4 in (6.35mm) of space is the wear limit for a bushing. A good way to estimate is if the drill bit fits between the tool and the bushing it may need replacing. However, having a mechanic evaluate the bushing is the most accurate way of assessing wear bushings.

Step Four: Monitor Nitrogen Levels

Many breakers feature nitrogen gas in the back-head as a cushion and for increased power. This minimizes the power demand on the carrier's hydraulic system and ensures consistent, high-impact energy. It's important to maintain and fill the nitrogen reservoir as needed for consistent power output. Be sure to conduct a visual inspection of the breaker before every use, and a thorough examination weekly to ensure everything is working properly. This results in increased uptime and extended breaker life.

www.brokk.com

Greasing before and during operation also is part of proper breaker maintenance that reduces equipment wear.



Move/Edition—Scanmaskin's Most Ergonomic Floor Grinder

Move/Edition, the latest addition Scanmaskin's World Series line, features a robust cast planetary with unmatched durability. The simplistic design allows for easy and quick repairs on common service items, allowing users to get moving faster than ever.

Move/Edition started out as a concept to make the workdays easier and less strenuous, without compromising performance. The result is a machine that features a new handle with two adjustment points and 360 degrees of rotation on the hand grip. This also enables a good hip support along with high and low positions to accommodate any operator.

The new Move/Edition motor reduce the machine's weight by 50 lb (23kg) while offering the same power as before. The detachable new front wheel also reduces weight when removed and gives an improved ground clearance and makes it easier to move. Scanmaskin has also updated the wheels to ergo solid components with larger diameter, which provide up to 40% less resistance when moving the machine.

www.scanmaskin.com



Yanmar Launches Website Dedicated to Compact Equipment

Yanmar Compact Equipment North America has launched www.yanmarCE.com, a state-of-the-art website dedicated to its lines of compact equipment. The site comes as one of many new investments Yanmar is making in the North American market and corresponds to the company's initiative to adopt a customer-focused approach in every facet of its business.

The new website makes it fast and easy for users to find information on the Yanmar brand and the compact equipment products offered in North America. It requires fewer clicks to reach product and industry pages, and the intuitive layout makes it simple to locate desired information, in addition to improving the site's visual appeal.

Practical features add more usability to the site. A new Build & Price tool allows users to customize a machine with the configurations they are most interested in. They can then submit the configuration and be contacted by a dealer with a quote. Site visitors can also visit the News page to stay current on the latest updates from Yanmar Compact Equipment and read helpful articles. Users can sign up for Yanmar's newsletter to receive news and updates directly in their inboxes.

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What's in Your Toolbox?

Bit Selection Tips to Maximize Efficiency by August Scalici, Field Sales Application Expert, and Jeff Keeling, Business Development Manager, Brokk Inc.

Minimizing effort and maximizing efficiency on any job requires the right tool. For concrete demolition contractors determining which machine provides the optimal power-to-weight ratio for the task at hand should be the first consideration. Many options are available, but remote-controlled demolition machines provide the power, versatility and efficiency to master a number of applications, especially in congested urban areas such as indoor and top-down demolition. The important decisions don't stop with the carrier, though. Identifying the right bit for the task at hand can increase efficiency, whereas a mismatch can slow down productivity or leave behind unsatisfactory results. Knowing the difference gives savvy contractors a huge advantage in an increasingly competitive field. A toolbox full of bits isn't necessary for every concrete demolition contractor, though. It all depends on application.

Every Contractor's Friend – Moil Point

The most common bit found on jobsites is the moil point. Shaped like a pencil, it's ideal for breaking hard concrete reinforced with rebar. This design focuses the entire force of the hammer and carrier in a 1/4-in (6.35mm) point, making it an optimal choice for indoor applications and other situations where vibrations are unacceptable.

The moil point also offers good control. Operators can demolish around rebar with precision and efficiency for applications such as walls, footings, floors foundations, or machine bases. However, it does not provide the level of precision necessary for fine detail work. The cone-shaped head is also at risk of getting stuck when breaking concrete, the result of material failing to expand fast enough and trapping dust close to the tool, lodging it in place. Operators can avoid this by paying special attention to the running time of the hammer. If the hammer runs for more than 20 seconds in the same spot without noticeable results, the tools should be removed from the hole immediately or else risk having the bit become stuck.

Several variations of the moil point offer further efficiency in certain situations. A pyramidal moil point, also known as a



For inflicting maximum destructive power, the slab buster, or "elephant foot," is the most appropriate tool for the job.

"nail head", for example, provides minor torsion and a wedge effect in four directions, making it more efficient as a dividing tool, particularly for larger diameter tools. The slight variation in shape also keeps the "nail head" from getting stuck as often.

Detail Oriented – Chisel

Similar in appearance to a flat-head screwdriver, chisels are available in standard and wide widths. They provide strong torsion and good penetration, resulting in the best splitting action, making them ideal for trimming applications, including floors, walls, and foundations, as well as demolishing reinforced columns, supports, and blocks. For example, the chisel can be used to clean between rebar on a slab edge to ensure an ideal bonding surface for pouring concrete. This tool also offers the best precision for fine detail work, such as shaving down high points or blowouts from slurry walls.

Heavy Hitters – Blunt

This tool features a flat face with more surface area to deliver a wider area of impact when breaking slab concrete. The blunt tool is ideal for floors, recycling, concrete-encased steel beams, and certain roadwork applications. Energy is distributed across the whole face of the tool, covering a significantly larger surface area than moil and chisel bits for maximum breaking efficiency.

Working with a blunt tool produces additional vibrations, which limits its use to situations like indoor and top-down

demolition and some road and bridge repair applications. On the other hand, those vibrations can be advantageous for removing concrete from around steel beams, as it encourages the concrete to "walk away" for easier removal. This tool can also be used for bridge beam testing, as it can create a pocket just small enough to inspect the steel beam beneath the concrete.

Maximum Destruction — Slab Buster

When a project calls for maximum destructive power, the slab buster, or "elephant foot," is the ideal choice. The bell-shaped slab buster distributes energy over a surface area three times its size, doubling production of both slab and on-grade demolition. The slab buster also creates powerful vibrations and provides very little precision, so it is not ideal for every situation. However, for a thin slab floor with no vibration restrictions, this tool offers maximum demolition efficiency.

So, What's in Your Toolbox?

When it comes to increasing efficiency in concrete demolition, a little forethought and the right tool for the job can go a long way. Expertly selecting a bit based on project needs can speed up production, leaving crews free to move on to the next job that much sooner. While a moil point can often handle the bulk of a contractor's work, keeping an assortment of tools in their toolbox will increase versatility and efficiency.

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Material	Use	Specifications	Tool type
Concrete	Thin and thick floors, walls	Reinforced	Chisel
		Non-reinforced	Moil point
	Foundations	Reinforced	Chisel
		Non-reinforced	Moil point
	Blocks, columns, support	Reinforced	Chisel
Recycling	-	Blunt tool	
Sedimentary rock (limestone, sandstone, graywacke, calcareous sediment)	Trenching, foundation work, primary quarry breaking	Heavily fissured	Chisel
		Lightly fissured	Moil point
	Breaking oversizes	Monolithic	Moil point
Asphalt	Road surfaces, transport routes	Soft structures	Chisel/wide chisel/asphalt cutter
		Frozen ground	Chisel/wide chisel/asphalt cutter

While the carrier might be a key factor in the efficiency equation for concrete demolition, choosing the right bit for the task at hand can make a huge difference in an increasingly competitive field. Charts courtesy of Epiroc.

Tool type	Moil point pyramidal	Moil point conical	Chisel	Blunt tool
Working principle				
Key properties	Minor torsion effect Good penetration Wedge effect in four directions (best in tools with big diameter)	No torsion effect Good penetration Wedge effect in all directions (best in tools with small diameter)	Strong torsion effect Good penetration Optimum wedge effect in two directions	Optimum energy transmission No torsion effect No penetration No wedge effect
Use in concrete	Non-reinforced concrete	Non-reinforced concrete	Reinforced concrete	Recycling (steel rebar separation)
Use in sedimentary rock	Primary breaking in lightly fissured or monolithic rock	Primary breaking in lightly fissured or monolithic rock	Primary breaking in heavily fissured rock	Secondary breaking (breaking oversizes)
Use in metamorphic/igneous rock	-	-	Primary breaking in heavily fissured rock	Primary breaking in lightly fissured or monolithic rock as well as secondary breaking (breaking oversizes)

The moil point offers good control, allowing operators to demolish around rebar with precision and efficiency for applications such as walls, footings, floors, or machine bases.

Atomized Mist Cannon Manages Dust in Unfavorable Weather Conditions

BossTek has introduced the next advancement in industrial dust suppression—the DustBoss® DB-60 Surge®, a powerful cannon designed to fight dust with maximum efficiency.

Developed in response to the needs of customers in areas with variable winds, the DB-60 Surge features water propelled at high velocity from a center nozzle, combined with the industry-proven fan and misting ring system. With three remote-controlled stages and precision oscillation for optimum command over water volume and coverage area, the cannon uses high-powered jets that surge through the wind for over 250 ft (76.2m) to suppress both surface and airborne dust. The result is effective and versatile dust mitigation in challenging weather for outdoor operations ranging from demolition to bulk material processing and storage.

The DB-60 Surge combines the power of an industrial fan, misting ring and heavy-duty barrel with the reach and force of a central high-pressure spray nozzle. The pressurized spray resists wind shear and even uses the force of the wind to further fragment and carry the droplets, enhancing its dust suppression capabilities. This is achieved without the need for the high water output associated with a hydrant-dependent hose or industrial sprinkler system.

In high-wind situations, dust is lifted into the atmosphere and carried beyond the site line over long distances, which can lead to permit violations. Operators of bulk storage mounds, demolition sites, ports, recycling material piles, etc. often mitigate particulate emissions using a sprinkler or hose to saturate a material's surface. The higher the wind, the more water pressure is required to break through the shear, resulting in greater amounts of water filling the surrounding work area—often 300 lpm (1,135 lpm) or more.

There are several issues associated with the use of hoses and industrial sprinklers. Hoses typically require manual labor, removing workers from other critical tasks. Moreover, both sprinklers and hand-held hoses contribute to high water bills. Taking compliance and expenses into consideration, the long-term cost of operation for sprinklers and hoses is higher than it might appear.

The DB-60 Surge addresses wind, labor and water usage issues. While striving to stay compliant with dust regulations, operators can now better match the water requirements to the specific application. Fed by a standard 1.5-in (38mm) hose with a cam-and-groove quick disconnect coupling, the powerful booster pump delivers as much



The DB-60 Surge is built for versatility and continuous use in punishing outdoor weather conditions.

as 500 psi (27.5 bar) of water pressure to the center nozzle, with an output of 37-100 gpm (140-378 lpm).

Controlled by a three-stage system adjusted by a hand-held remote, the first stage is highly effective on moderate days for airborne and surface coverage. It uses the powerful 30,000-ft³/min (849.5-m³/min) fan and misting ring to deliver millions of fine atomized mist droplets over a wide area, which collide with tiny dust particles and drag them to the ground. For windy days, stage two features a pressurized stream delivered by the central nozzle. And on the most blustery days, operators can utilize the fan, misting ring, and center nozzle for maximum coverage.

Versatility and coverage area are extended with the customizable 359° horizontal oscillation range and 0°-50° vertical throw angle. Using the hand-held remote, the operator can raise the spray angle to reach extended heights, directing the 250-ft (76m) spray to areas such as high-reach demolition or across the beam of large bulk cargo ships. The oscillation range is easily controlled with the left and right trigger of the remote control to customize the precise desired horizontal range.

Mounted on a heavy-duty roadworthy trailer for towing at highway speeds with a standard ball hitch, it can be placed by a pickup truck, skid steer or lift truck wherever dust suppression is needed. As sup-

plied, the DB-60 Surge can run potable or non-potable water, as it is equipped with two in-line 30 mesh, 595-micron filters to avoid clogging. One filter is located at the water entry point to the booster pump, another prior to the pipe feeding the central nozzle.

After the initial setup, the DB-60 Surge requires no labor to operate. The remote control has a 1,000-ft (305m) range, so operators using heavy machinery from high-reach excavators to front loaders can command the machine without leaving the cab. Other options are available, including tower mounting and a version of BossTek's popular Fusion lineup, which pairs the Surge with a generator to alleviate the need for a nearby power source.

www.bosstek.com

The cannon uses high-powered jets to cut through the wind, suppressing surface dust and airborne particles.



Yanmar Acquires Majority Ownership in Battery Technology Company

Yanmar Holdings Co., Ltd., has acquired a majority share in ELEO Technologies B.V., a fast-growing battery technology company based in the Netherlands. By integrating ELEO's advanced, scalable, and modular battery technology, Yanmar will further its electrified powertrain capabilities with versatile, customized solutions for off-road applications.

As part of Yanmar Power Technology Co., Ltd., ELEO will continue to operate as a stand-alone entity under its own brand. ELEO's founders Bas Verkaik, Jeroen Bleker, and Bram van Diggelen, will maintain their focus on further strengthening the company's technology and accelerating business growth. The founders will be joined by key Yanmar executives to form the company's management board.

"Yanmar is committed to delivering electric powertrain solutions that enable our customers to adopt zero-emission technology without compromising on productivity," said Tomohisa Tao, President of Yanmar Power Technology. "The investment in ELEO gives us the opportunity to adopt highly innovative technology that has been engineered for the tough conditions in which our end-users work."

www.yanmar.com



Yanmar America Sponsors Atlanta Braves Groundskeeping Equipment

Yanmar America Corporation, a major player in tractors, construction equipment and engines, has announced its sponsorship of the Atlanta Braves.

Based in nearby Adairsville, Ga., the company will provide its SA series and YT3 series multi-purpose compact tractors for ground management at Truist Park, the home of the 2021 World Series champions. The compact and versatile tractors will support the Braves' grounds management team to keep the field in pristine condition for hometown fans and visitors.

As part of the partnership, Yanmar will be able to take advantage of various marketing and promotional activities provided by the Braves throughout the season.

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JUNE 22 IN CHARLOTTE, NORTH CAROLINA

Team Conjet welcomes you to our North American headquarters in Charlotte, North Carolina, for a day of hydrodemolition education and live demonstrations.

Please join us to see our Robots in action, have all your questions answered, and enjoy some good food and networking. On behalf of Team Conjet, we look forward to seeing you!

Read more and register at www.conjet.com/demoday

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