

### Rivard Trenching USA



Rivard Trenching USA's newest model RIV 502-TR 250, 28 Ton, rock-saw wheel trencher is the most powerful and efficient machine in its class. The 540 horsepower Caterpillar C-15 six-cylinder turbo engine provides the hydrostatic power transmission for the B5 type crawler tracks, and for the two hydraulic motors mounted on the top outside geared frame of the cutting wheel. The RIV 502 cuts trenches, with the highest torque and energy, 8-15 inches wide and up to 61 inches deep in hard rock, mixed material, and soft soil. The wheel offsets 96 inches across the full width of trencher and the wheel tilts 14 degrees to each side to stay vertical on sloping ground. The cutting wheel has two rotation speeds – low: 0-26 rpm; and high: 0-40 rpm. The suspended cab and self-leveling tracks allow for traversing difficult terrain. A front end reel holder is provided along with three over the top cable and duct guides. The RIV 502's unique labor saving Laying Box, which is pulled behind the machine, installs safely and without cave-ins. (610) 909-1905, rivardtrenching.net

proper auger depth control and an exclusive 60 degree angle indicator for proper digging angle. Manual side shift allows trenching close to structures. A replaceable spoil auger moves most spoil to one side of the trench. Plus, a heavy-duty crumber shoe comes standard for loose soil removal. Worksite Pro trenchers are built to last. The nose wheel bearings are maintenance free and double sealed for long life. The heavy-duty wheel motor and axle design also promote durability. (800) 503-3373, deere.com

### John Deere



Five different trencher models are available – two lengths with standard-flow hydraulics and three lengths with high-flow hydraulics. A heavy-duty, direct-drive system eliminates the need for an unreliable chain reduction. All trenchers feature a skid shoe to ensure

The TT-2000 Chain Trencher boasts more digging torque with the Caterpillar C-9 electronic diesel engine providing 275 horsepower at 2,100 rpm. The trencher's digging capacity options include: boom options 6, 8 and 10 feet; depths provided by sectionalized single or double chain boom systems. Cutting width options include: single chain, 12-18 inches; double chain 20-36 inches with 4501/4502 type chains. The TT-2000 features a 12-foot Arc type conveyor with variable discharge speed – shiftable in either direction for precise spoil placement, using three-ply heavy-duty belting material. The crawler track system is made of heavy duty OEM 300 series lubricated sealed track and roller system with 23.6-inch Grouser with mud relief holes. The TT-2000 also features a mechanical drive with four different chain speeds providing high torque, low speeds, allowing maximum tooth penetration and extended tooth life. (817) 491-0621, trenchtech.com

### Trench-Tech



The Charles Machine Works has introduced its largest trencher to date: the Ditch Witch HT220. Built to provide exceptional digging in both rock and dirt, the HT220 is a hydrostatic trencher with 220 horsepower. Designed for large installations – 12 to 24 inches wide and 4 to 8 feet deep – the machine has an exclusive flywheel gearbox that delivers tremendous horsepower to the attachment on demand while protecting the hydraulic system and other components from shock. Operator vibration is further minimized by standard trencher stabilizers that isolate vibration when digging in rock. (800) 654-6481, ditchwitch.com

### The Charles Machine Works



Mastenbroek trenchers are joined by the HRT (Hard Rock Trencher) range, capable of excavating trenches up to 17 feet in depth and 6.6 feet wide. Unlike conventional trenchers where a rear-mounted digging boom is pulled onto the rock face, the fully patented HRT puts the reciprocating boom at the front of the machine, pushing an endless cutting chain into the bottom of the trench to create an undercut. The cutting head is then progressively raised through the material until it breaches the surface, at which point the boom is then lowered and the cycle repeated to excavate the desired depth and width. An HRT 25 working in the Middle East excavating trenches for water, sewerage and cable services has performed successfully in rock with a compressive strength tested at 33,000 psi. Powered by a six-cylinder turbocharged Cummins diesel engine developing 220 horsepower at 2,200 rpm, the machine features as standard a trench unit that can be offset to the left or right. +44 (0) 1205 3111313, mastenbroek.com

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### Mastenbroek



The track-mounted M5 is Tesmec's first mechanical drive trencher. The M5's mechanical trenching drive makes the most efficient use of available power, providing higher torque and slower digging chain speeds to maximize production in rock and tough digging conditions. The M5 weighs from 140,000 to 165,000 pounds and is powered by a 440-horsepower Caterpillar C-13 diesel engine. Trench width and depth capabilities vary with boom and chain set-up with a maximum depth of 16 feet and widths between 28 to 42 inches. Sectional boom design offers boom lengths from 8 to 16 feet in 2-foot increments. Mechanical trenching drive components include an electronically controlled Cat transmission providing four digging chain speeds, and a heavy-duty Cat differential which transmits power to the head shaft via sprockets and multi-strand roller chain. The digging chain employs rotary carbide-tipped cutters. Trench spoil is removed to either side of the machine by a hydrostatic conveyor system. (800) 851-5102, tesmec.com

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### Vermeer

The rugged T555RW Rockwheel from Vermeer has a 185 horsepower John Deere Tier 3 engine and modular rockwheel attachment for accurate, reliable cutting. The rockwheel attachment, equipped with 1-inch shank rotary carbide teeth, enables the machine to reach cutting depths of 36 inches and widths from 4.75 to 6 inches. The rockwheel subframe is bolted to the machine's main frame providing easier access for service to the main components. The T555RW is also outfitted with the TEC 2000 electronic control system and tilt track that guides the machine tracking down a straight line and provides easier operation in tough cutting conditions. (888) 837-6337, vermeer.com



### Trenchor/Astec

The new T1360 is a 440-horsepower, track-driven mechanical-drive wheel trencher with the capability of digging to depths of nine feet and widths from 32-66 inches. The chain case housing is designed as part of the support structure for the wheel which allows all drive line parts – drive shafts, chains, bearings – to be accessible for service without requiring the removal of attachments. Specifications list the machine's track drive as infinitely variable hydrostatic/mechanical with independent proportional electric over hydraulic track control. The digging assembly has a power shift transmission with four trenching speeds and reverse. The arc-type conveyor has a 48-inch wide belt which can be operated to speeds of 900 feet per minute. A breakaway crumpling shoe and noise abatement equipment are standard. The fully-enclosed operator's station is air conditioned and heated. (800) 527-6020, astecunderground.com

## PADDING\SPOILS HANDLING



### Ozzie's Pipeline Padder

Ozzie's new product – the Micro Padder – is designed for smaller diameter pipe or tight, confined spaces. It combines the proven and effective screening technology of the Mini-Padder with the compact and reliable skid-steer tracked loader. The Micro-Padder's elevator has a self loading, vibrating screen and is hydrostatic, operator controlled. The screens pick up raw material and are interchangeable from 3/8 to 1 1/4 inch. The screen area is 12-square-feet. With low ground pressure, the Mini-Padder has both forward and reverse drive and rubber tracks. The conveyor boasts several features: transports fine sizes directly to the trench; left/right rotation; variable speed control; 3-foot hydraulic extension slide; and folds to vertical orientation for easy transport. (480) 585-9400, ozzies.com

### EZ Pipeline Padding



The EZ-4, EZ-7, EZ-8 and EZ-9 models are available from EZ Pipeline Padding (custom models are also available). The smaller machines can be attached to rubber tire loaders or backhoes. Any make of tractors can be used. The soil separator unit mounts on the "C" frame of the dozer after the blade is removed at the same attaching points as the blade and hydraulic power unit mounts on the back end of the dozer. The added weight of the rear mounted power unit acts as a counterweight for the additional weight added to the "C" frame in the front. The complete machine can be mounted and ready for operation in about one hour or less. The standard mesh size is 1 1/2 inches and screens are available for smaller sizes. All power to the revolving drum and conveyors is hydraulic and furnished by a Caterpillar 3304T engine on the EZ-7 and a Caterpillar 3306T engine on the EZ-8. Both the soil separator drum and conveyors are reversible and variable speed for easy padding in either direction in the spoil bank. All controls are electric from a control box adjacent to dozer operator seat. A conveyor pivot attachment is available for the EZ-7 Model which pivots parallel from the ditch out to about 65 inches. (432) 333-9587, ezpadding.com

### Felco Industries



Felco Backfill Conveyor allows contractors to backfill open trenches faster, safer and easier. For maximum production, the excavator operator places material in the hopper, and sends it the length of the conveyor (past the trench box). The material is immediately accessible for compaction. Felco Backfill Conveyor increases the efficiency and profitability of a project by removing truck requirements from the trenching operation and eliminating spoil stockpiling to maximize digging time. It also helps prevent clean-up costs and potential damage to private property. Felco Backfill Conveyors are now available with a custom swivel conveyor option. The swivel conveyor is attached directly below the end of the main conveyor. The swivel conveyor can be rotated to allow the operator to place the spoils exactly where they are needed. (406) 728-9103, felco-ind.com



### ALLU Group

ALLU Screener Crusher is a versatile processing attachment for a wheel loader, excavator or skid steer. ALLU Screener Crusher can screen, crush, pulverize, aerate, blend, mix, separate, carry, feed and load all in a one-step operation. With the ALLU Screener Crusher processing attachment, a basic machine can be converted into a processing plant, increasing business opportunities and profits. The ALLU Screener Crusher processing attachment can process different kinds of materials like top soil, waste soil, contaminated soil, clay, peat, bark, compost, bio waste, demolition waste, grinded asphalt, glass and many other materials. (800) 939-2558, allu.net

### Ingersoll Rand



Ingersoll Rand's hydraulic demolition attachment, the Tramac SC-50 breaker, has an operating weight of 1,102 pounds and an operating pressure of 1,881 pounds per square inch. The Tramac SC-50 fits carriers from 14,000 to 30,000 pounds; and an impact energy class of 1,500 foot-pounds, with impact frequencies ranging from 680 to 1,140 blows per minute. Two strong retaining pins and locks keep the bushing and the tool in place. The automatic pressure

regulator feature ensures constant energy with every blow. A fully enclosed, reinforced and dampened cradle makes for a quieter jobsite. This cradle reduces noise and vibrations that can be transferred back to the carrier. Maintenance is easy with the SC-50 breaker because it has fewer moving parts than other breakers and no tie rods to remove. If needed, the breakers can be disassembled quickly without special tools. In addition, the bushings, pins and tool can be removed without taking the breaker off the carrier, reducing maintenance time and cost. The wear items are field-replaceable so the breaker can function with less downtime. An air pressurization kit is available for underwater applications. A full range of tools are also available for use on the breaker. (515) 557-2008, [ingersollrand.com](http://ingersollrand.com)



### Vermeer

The Vermeer RS6/RS8 is a specialized rock drilling head assembly utilizing a tri cone roller bit and drill head housing. The tri cone bit is driven using a shaft and bit adapter. The drill head housing is offset from the shaft and remains stationary while drilling, constantly causing a steering action. Directional control is accomplished by changing the orientation of the housing using a jaw clutch

mechanism to engage the housing to the drill stem. The RS6/RS8 allows an HDD machine to be quickly converted to a rock drilling machine by simply having the tool on site. (880) 837-6337, [vermeer.com](http://vermeer.com)



### Melfred Borzall

Melfred Borzall delivers the Rock-It HDD Performance Mud Motor available in sizes from three to five inches, with larger sizes available upon request. Low flow and high torque accommodates rigs with as low as 20-gpm drill fluid flow. Now, even a mini HDD rig can drill rock! Melfred Borzall's Rock-It rental program features a fixed, known rental price up front – no hidden charges. Rent the Rock-It for as little as one week, with the rental

time starting when you receive the tool and ending the date the tool is shipped back. Have a unique rock project that requires a custom Rock-It mud motor? Talk to our rock drilling specialists and Melfred Borzall will build you a motor to fit your specific needs. (800) 558-7500, [melfredborzall.com](http://melfredborzall.com)

### Sandvik



There is a Sandvik hydraulic hammer for virtually any breaking application that requires a boom-mounted percussive tool. From the advanced in-series hammers for mini-excavators, whose tools are so strong they are guaranteed for life against breakage, to the extra heavy-duty G-series for excavators from 27-100 tons in weight, there is a reliable, low-maintenance, easy-to-fit, high-performance Sandvik hammer certain to raise productivity, optimize results and give a lower cost per ton of material broken. (404) 589-3800, [miningandconstruction.sandvik.com](http://miningandconstruction.sandvik.com)

### American Augers

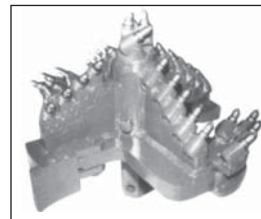


The heavy-duty Rock Head by American Augers is the durable cutting head that is ideal for bores through soft rock

formations, harp pan, shale, gravel, small boulders and other like intrusive ground conditions up to 6,000 psi. The design benefit is that the "vee" shape of the head provides a self-centering action, which helps to maintain ideal line and grade. The head also features Tungsten carbide bullet bits that can be used at aggressive drill angles. Available sizes include 4-54 inch (depending on Hex size 1 3/8 to 4 inch). (800) 324-4930, [americanaugers.com](http://americanaugers.com)

### Barbco

Barbco Cutting Heads deliver a 100 percent cutting pattern, reducing drag and torque



to your boring machine, maximizing control of line and grade. The BBC-45 Heavy Duty Rock Head features:

replaceable bullet bits; a pilot hole design; wipers to remove cuttings 16 inch and larger; a replaceable shank; and a changeable shank size. (800) 448-8934, [barbco.com](http://barbco.com)

### Underground Tools Inc./UTI

UTI offers high quality trencher parts including chains, cutting systems and sprockets, all coupled with exclusive DIRTsmart technical service. All parts are made with the finest steel and carbide available and heat treated



to ensure strength. Trencher parts from UTI are lab tested and field-proven for durability. They meet or exceed manufacturer's specifications and are available for all makes and models of trenchers. With 75 years of combined experience UTI provides the best tools for the job. (866) 488-DIRT, [undergroundtools.com](http://undergroundtools.com)



### Ditch Witch

The Rhino Rock Backreamer is designed for enlarging diameters of pilot holes made through rocky soil conditions with horizontal directional drilling equipment. Cutting cones welded on the tool's shaft contain tungsten carbide inserts which eat away at rock as the tool is pulled through the pilot hole. Four cutting cones are available in 6-, 8- and 10-inch diameter tools. Tools in 12-, 14- and 16-inch diameters have eight cones arranged in two sets of four cones each with the rear set offset from cutting paths of the front four cones. (800) 654-6481, ditchwitch.com

### Kennametal



Kennametal's conicals provide maximum penetration in all cutting conditions, from soft shale to hard rock or concrete. They feature wide collars for maximum block protection and better rotation; solid carbide tips made from tough carbide; and are available in varying geometries for any cutting condition, and

different retention methods. Kennametal's heavy-duty blocks are designed for maximum strength and rigidity and feature a wide weld chamfer. (412) 539-5000, kennametal.com

### American Pneumatic Tool

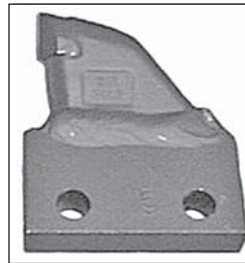


American Pneumatic Tools' Rock Drills range from 9 to 60 pounds. In the 60-pound class, the Model 155 is built tough to be used in general construction, as well as drilling through granite, hard faced rock, quarry drilling and deep hole drilling for blasting. The Model 155 can be used with dowel hole drilling machines. Like the smaller Model 137, the 155 can also be adapted for wet drilling applications. (800) 532-7402, apt-tools.com



### INROCK

INROCK, whether drilling soft to hard, provides drilling tools, equipment and services to directional drilling contractors worldwide. INROCK has the technology and support to make your bores profitable. Based in Houston, TX, INROCK also has offices in Mexico, Canada and Europe. All products come with 24/7 service and support. (713) 690-5600, inrock.com



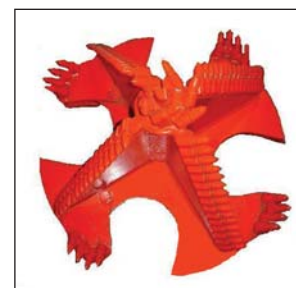
### Ballantine

Ballantine offers a wide selection of cutting teeth and manufactures cup teeth with embedded tungsten carbide hard facing for nearly all trenchers. Also available are many styles of carbide rock teeth, such as: carbide rotary teeth, carbide Terminator teeth and ground breakers. A wide variety of adapters for carbide teeth are also in

stock. (763) 427-3959, ballantineinc.com

### Bor-It Mfg.

Heavy-Duty Rock Heads from Bor-It Manufacturing are tough, field proven heads utilizing a "V" shape to provide self-centering action, which helps maintain line and grade. Featuring easily replaceable carbide cutting tips, these heavy-duty heads are ideal for boring through solid rock of medium hard formations. Bor-It recommends utilizing oversized heads instead of wing cutters in hard rock. Heads without wing cutters may over cut for the casing. (800) 289-6639, bor-it.com



### Sharewell



Sharewell offers a 5-cutter version of its Jumbo Lo-Torque Hole Opener product – the LTX24x5. This version dramatically reduces impact loading on the cutters, which increases the product's working life. Another benefit of the 5-cutter version is a reduction of the torque cycle while reaming, creating a very smooth running hole opener. The body is bi-directional and can be either pull or push reamed. Ideal for pipeline projects, the Jumbo cutters offer large, sealed bearings for extended runs. It is available in Mill Tooth style, IADC type 5 T.C.I., and IADC type 8 T.C.I. A minimum pilot hole of 26 inches can be made using the LTX24x5 and hole sizes ranges are 36, 38, 40 and 42 inches. (713) 983-9818, sharewell.com

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### The Robbins Company



The Robbins Company's back reamers use state-of-the-art tunneling and boring technology. The reamer (pictured) is designed for use with a 4.5 inch to 5.5 inch pilot-hole diameter and opens to 12 inch in a single pass. It is designed for boring rock formations and requires about 15 to 20,000 pounds of pull and less than 500 pounds-foot of rotary torque to adequately cut rock. Robbins will soon offer a 24-inch reamer expandable to 30 inches, and a reamer expandable in 6 inch increments up to 54 inches, to efficiently bore the hardest of rock formations. (253) 872-0500, therobbinscompany.com



### McLaughlin Group

The model McL-48/54 is capable of cased bores up to 60-inch diameter. A new quick-connect split-design feature enables machine components to individually be moved in and out of the trench, reducing required lifting capacity and making it easier to position the machine. This powerful boring machine develops 950,000 pounds forward thrust at 5,000 psi, and 170,000 foot-pound auger torque in first gear. The power train includes an air-cooled 6-cylinder turbo-charged diesel engine that develops 162 horsepower at 2,500 rpm, hydraulic clutch, 5-speed transmission with reverse and planetary reduction final drive to the 4-inch Hex chuck. (800) 435-9340, mightymole.com



### Bor-It Mfg.

The Model 42 "Thruster Buster" Horizontal Earth Boring Machine is constructed to provide extra power for cased bores ranging from 12 to 42 inches. The Model 42 is equipped with a 96-horsepower Deutz diesel engine. With four-speed transmission and Fairfield's S20B torque hub, the Model 42 produces 500,000 pounds of normal thrust and a torque output of 90,000 foot/pounds. The Model 42 is mounted on a 12-foot track and the package includes an additional 20 feet of track along with a 42-inch master pusher and saddle, spoil ejector and emergency shut-down switch. (800) 289-6639, bor-it.com



### American Augers

The Auger Boring Disc Cutter Head is available in sizes from 24 to 60 inches. The cutting head is manufactured from high strength steel, which allows for increased durability and benefits the operator by maximizing performance in various geological formations and is designed to withstand the sever loading of mixed face conditions. The retractable cutter head allows for cutter change and service that can be accomplished outside of the heading. The cutter head is also mounted to the casing to enhance overall cutter head stability, which allows for longer cutter life. (800) 324-4930, americanaugers.com



### Robbins TBM

Robbins TBM offers several sizes of auger boring machines (ABMs) in any bore diameter from 36 to 72 inches with standard with custom size available. The majority of the crossings are 175- to 225-feet long; however some drives have been over 600 feet in length. The length of the drive depends on the ground conditions. The machine can excavate sand, gravel, clay and rock of any type. ABM's can be utilized for many varieties of soil, sand, clay, cobble, glacial till, soft shale and some sand stone. For harder material use the Robbins SBU with your ABM. Hex adapters prevent breakage of major components. (440) 248-3303, robbinstbm.com