Let's Build the World.

Mining Products
Astec Mining Group

A Diversified Corporate Enterprise with Global Reach

Astec Mining Group (AMG) products have a rich history that comes from decades of use in mineral processing and recovery systems. From coal to iron ore, surface mining to underground, blasting to milling processes, Astec products help mining companies around the world accomplish their goals.

Our commitment to success begins with experienced field application engineers. We take the time to listen and understand the project demands, including the site environment, ore characteristics, recovery requirements, transportation restrictions and budget considerations. Only then do we apply our expertise and offer recommendations. Whether a single component or a complete process design and supply, we only proceed when we are confident the outcome will exceed expectations.

Astec Mining Products

Strategically Located for Global Customer Support

Within the AMG, five Astec companies have developed extensive support capabilities and unique product offerings specifically designed to serve the precious metal, mineral and coal mining industries. Working together under the Astec umbrella these companies offer a complete line of comminution and sizing equipment, as well as underground mining support vehicles.

In addition to product solutions from Telsmith, Astec Mobile Screens, Osborn, KPI-JCI, and Breaker Technology; Astec can also offer integrated solutions incorporating products from other Astec group companies.
Today, the AMG offers products for virtually every link in the system from the mine or dump pit to the finished product — all from one reliable source. As a diverse enterprise, AMG supports your operation with its extensive network and offers unique product offerings specifically designed to serve your precious metal, mineral or coal mining operation.

Standing on solid ground is one thing, but working with it is another. That’s why AMG offers your company a range of “groundbreaking” equipment and service including mineral processing and recovery systems.

The typical flow drawing below highlights the scope of the AMG product offering and our ability to provide complete comminution systems.
Underground Base Carrier Vehicles

Astec offers a heavy-duty, base carrier vehicle with proven low cost performance in underground mines. The base carrier provides a solid platform onto which additional features may be built.

Articulated four-wheel drive, low profile base carriers are available in wide and narrow configurations to accommodate any mine conditions.

MPV Modular Cassette System

The proprietary cassette system works in conjunction with the base carrier to provide a multipurpose vehicle (MPV) carrier solution.

Cassette options include: personnel carrier, fuel/lube, mechanic’s service, scissor lift and crane applications.

Underground Scaler Vehicles

Scalers safely perform scaling operations in mines and tunnels. Mounted breakers provide fine control for directional scaling of back walls and ribs. Vibratory picks, scalers (VPS) bring mechanical scaling to a new level, combining the action of a pry-bar, pick and breaker into a simple robust attachment. Astec scalers and, in particular, the HS-18 with unparalleled articulation in the boom assembly offer flexibility to deal with virtually all scaling situations, along with the necessary precision and maneuverability to work in tight quarters.

Shotcrete Transport Vehicles

Shotcrete remixer drums, available in a variety of capacities, operate bi-directionally, allowing variable mixing or discharge rates proportional to rotation speed.

Internal drum flutes are self-cleaning, eliminating the requirement to tilt the drum, maintaining a low profile during operation.

Scissor-Lift Vehicles

Heavy-duty scissor-lift platforms for drilling, roof bolting and material handling are equipped with removable fixed height handrails, or optional folding handrails for low height tramming.

Deck mounted controls are standard with optional operator compartment mounting available upon request.

Crane Vehicles

Proportional control valving allows smooth crane operation for precise load positioning. A six-inch high kick rail with strategically placed tie-down loops prevents loose cargo from sliding off and allows proper securing of the load. The optional heavy-duty fold down tailgate provides flexibility for extra loads.

Fuel & Lube Vehicles

Fuel and lube vehicles have a removable deck mounted fuel tank and grease drum. All fluids are pumped through by pneumatic pumps designed for service in harsh mine environments. All service reels and hoses are equipped with the appropriate automatic rewind spooling system.

Mobile Rock Breaker Vehicles

Low profile mobile rockbreaker vehicles eliminate disruptive, costly and unsafe blasting conditions in stopes, draw points and grizzlies. They provide efficient and safe alternatives to secondary blasting. Optional remote radio controls are available to allow the operator to work at a safe distance from the machine.
Heavy Duty Grizzly Scalping Screens
Operators rely on grizzly scalping screens to remove fine material from the run of mine ore, prior to feeding the primary crusher. Typically receiving ore from an apron feeder, the grizzly scalper may handle lump sizes in excess of 1300 mm (51.2") and process tonnages as high as 2000 tph.
Sizes range from 1 m x 2 m (3.3' x 6.6') up to 3 m x 6 m (9.8' x 19.7') in single and double deck configurations. They utilize heavy grizzly bars to absorb the impact from large stone and scalp out the smaller stone. Extra height side plates with liners retain the large material on the screen.

Dewatering Screens
A low profile design with overhead, linear motion vibrators, creates high “G” forces to optimize the dewatering process.
Sizes are available up to 3 m x 10 m (9.8’ x 32.8’).

Multi-Frequency Screens
High frequency for sorting small diameter material and high amplitude for screening larger aggregate, the multi-frequency screen can handle any job you throw at it - without sacrificing an ounce of performance or a penny of profit.

Multi-Slope Screens
Utilizing a series of inclines with varying degrees of slope, Astec's line of multi-slope sizing screens are ideal for applications where the feed material contains a relatively high percentage of fine material. Other benefits of multi-slope sizing units include lower energy requirements, high feed rates and improved sizing efficiency due to thin layer screening.
Choose from a variety of sizes and models up to 3 m X 10 m (9.8’ X 32.8’) to match virtually any application.
**Heavy-Duty Scalping Screen**

Built to scalp the toughest, most abrasive materials, scalper screens are built to work in conjunction with a primary crusher or in the production of riprap. The heavy four-bearing Mesabi® design creates an eccentric, positive flow action that is highly effective on heavy loads at maximum capacity, while our Iso-vibe screen mounting system keeps the vibration in the screen — not on your plant.

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**Incline Sizing Screens**

Astec offers a variety of options for incline sizing screens. For screening operations that favor a circular stroke pattern, incline screens pack reliable and consistent screening performance into a wide selection of alternative designs. Choose from multiple deck configurations, wet or dry action in portable or stationary setup. Our well known incline sizing screen brands include:

- **Vibro-King TL screens** are reliable high production screens built around the revolutionary TL shaft assembly. Utilizing the "never-wear" sealing system, the TL shaft assembly delivers long service life with less maintenance. The TL live body is available with flat or crowned deck designs, accepting all screen media to deliver optimum performance in tough applications.

- **Valu-King screens** are engineered with crowned decks for side tension media and are supplied with a sub-frame and motor mount providing outstanding value. Valu-King screens are available in sizes ranging from .9 m x 1.8 m (3' x 6') up to 1.8 m x 4.9 m (6' x 16') double deck.

- **COMBO® screens** were developed as a response to the limitations of traditional flat and horizontal screens. The Combo® screen delivers unsurpassed capacity and efficiency. This truly unique innovation is proven to deliver superior productivity, efficiency and flexibility in wet or dry applications.

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**Horizontal Screens**

Horizontal screens deliver high productivity in a low profile package. The triple-shaft design employs an oval motion stroke pattern that generates a more aggressive screening action to reduce plugging and blinding while providing extended bearing life. These innovations, in conjunction with other features like huck-bolt construction and a triple-shaft design, ensure our horizontal screens are the most durable and efficient screens available.

Available in sizes up to 2.4 m x 6.0 m (8' x 20') in stand-alone units or mounted on a factory portable chassis.

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**High Frequency Screens**

High frequency screens are engineered to provide higher production capacities and more efficient sizing compared to conventional screens. High frequency screens feature aggressive vibration applied directly to the screen that allows for the highest capacity in the market for removal of fine material, as well as chip sizing, dry manufactured sand and more.
Crushers

Mineral Sizers
Astec’s range of single shaft and twin shaft roll sizers are rugged by design and engineered to handle high tonnage throughput using minimal installed primary power. The mineral sizers can be configured to operate in two ways depending on the material output size required. Select from through the centre (Centre Sizers) or down the side (Side Sizers). Astec offers mineral sizers that are ideally suited for static, semi-mobile and mobile installations. The sizers are designed to keep all the crushing forces within the actual body of the sizers, creating a compact unit that is a cost effective solution without any major foundations.

American Roller Ring Crushers
Well suited for most coal crushing applications requiring a top size output from 12 mm to 38 mm (.47" x 1.5"). Larger models are capable of accepting feed particles as large as 600 mm (24"). Available in sizes that range from 30 HP with 20-70 mtpH capacity, to 500 HP with up to 2000 mtpH capacity.

Cone Crushers
Making daily, monthly and annual numbers means keeping a constant eye on the bottom line. You can’t do that if you’re concerned about keeping your machinery up and running. Astec’s patented cone crusher innovations provide the efficiency needed to minimize downtime and maintain a high level of productivity. Available sizes range from the 75 HP up to 600 HP, including Kodiak® Plus Series, SBS, and SBX.
Single Toggle Jaw Crushers

Jaw crushers are most often utilized in mines as a primary crusher, reducing run of mine ore to manageable sizes for the next stage in the process. Both heavy duty and standard duty models are available and are applied depending on the type and hardness of the ore. Sizes range from 305 mm x 204 mm (12" x 8") up to 2032 mm x 1524 mm (80" x 60"). Available in Vanguard Plus, Legendary, Iron Giant, and Hydra Jaw lines.

Double Toggle Jaw Crushers

Double toggle jaw crushers are heavy-duty designs primarily utilized to crush the hardest of ores and ferro materials. Although extremely rugged, these models typically present reduced feed rates and reduction ratios when compared to single toggle jaw crushers. Sizes range from 610 mm x 330 mm (24" x 13") to 1524 mm x 1320 mm (60" x 52").

Double Roll Crushers

Equipped with adjustable clearance between the rolls, double roll crushers are typically applied where greater control over product sizing is desired. Larger models are capable of accepting 600 mm (23.6") feed. Available in six models from 610 mm x 720 mm (24" x 28") (30 HP), up to 1220 mm x 1220 mm (48"x48") (150 HP) and capable of throughput capacities up to 1630 mtph.

Horizontal Shaft Impact Crushers

Impact crushers may be applied as primary or secondary crushers in applications processing soft, low abrasion materials. Available in Andreas models up to 500 HP and New Holland models up to 1500 HP, Horizontal Shaft Impact crushers provide throughput capacities ranging from 100 tph to 2000 tph.

Vertical Shaft Impact Crushers

The efficient and versatile design of vertical shaft impact (VSI) crushers deliver highly consistent end products for jobs that demand precision. VSI crushers are available in both stationary and portable configurations and crank out up to 500 tph. With the capability to run in standard, semi-autogenous and fully autogenous, our models meet the most stringent material specs, allowing you to meet the challenges of any job you face.

Track Mobile Crushing

A variety of models are available to provide track mobile in-pit or underground crushing. Relatively low profile units can quickly relocate within the mine to provide low cost, self-contained crushing near the ore source. Primary, secondary and tertiary crushing plants may be combined with track screening plants to provide complete crushing systems.
Feeders

**Apron Feeders**
Apron feeders provide a reliable way to accurately control the rate of feed into a crushing or screening circuit. Often applied when wet or sticky materials are involved, these feeders are well suited for large primary input feed.

Built in traditional D4, D6, D7 and D9 track designs, feeders are available in sizes ranging from 900 mm to 3500 mm (35” x 138”) wide and in a variety of lengths.

**Vibrating Grizzly Feeders**
The vibrating grizzly feeder combines feed control with scalping capability to feed material into the circuit while separating smaller particles from the primary flow. Commonly applied ahead of the primary crusher, vibrating grizzly feeders are available in sizes ranging from 900 mm to 2000 mm (35” x 79”) wide and in lengths up to 10 m (33’).

**Heavy-Duty Pan Feeders**
Large heavy-duty pan feeders are typically used to load out ore passes and meter feed into a process. Incorporating a powerful vibrator mechanism, these feeders can control feed rates up to 5000 tph.

Available in solid pan configuration or equipped with grizzly sections, the heavy-duty pan feeder is available in sizes ranging up to 3 m x 6 m (9.8’ x 32.8’).

**Pan Feeders**
Frequently applied throughout a minerals recovery process, pan feeders are used to meter fine-to-medium sized particles from bins and hoppers into the process. Variable frequency controls deliver a wide range of operating speed to control the output rate.

Available in a variety of sizes from 320 mm x 800 mm (12.6” x 31.5”) to 2000 mm x 4000 mm (78.7” x 157.5’).
Breaker Systems

Portable Crusher Breaker Systems
The total weight of the unit, transport height, and in some cases ease of disassembly and reassembly are the key factors in selecting the appropriate boom/breaker combination for mobile/portable applications. Raking the material is less important in these portable applications, allowing the boom to be located off to the side, thereby allowing the vertical members of the feeder to be the sub-structure for the pedestal.

Primary Jaw Breaker Systems
Maneuverability, durability and reliability are of top priority for stationary jaw crushing applications or plants. Typically the vertical breaker coverage should extend at least half way into the jaw, with the breaker system mounted in-line with material flow so that it can rake towards itself. Astec offers the widest range of boom reach and breaker sizes in the industry.

Primary Gyratory Breaker Systems
The vertical breaker coverage of a breaker system requires a balance between a boom length large enough to cover the gyratory crusher bed while maintaining a pedestal location outside of the rock box. Our smart boom system provides superior maneuverability for breaking rocks and the ability to reposition oversize pieces for breaking.

Static Grizzly Breaker Systems
Coverage in this application enables raking and breaking of oversize in-line with material flow on the flat section of the grizzly. Finer material is eliminated on the inclined section of the grizzly. The vertical breaker coverage remains high enough above oversize on the grizzly to allow sufficient clearance for turning and breaking. In this situation, a side-mounted breaker permits working under low back heights by allowing lower elevation of the pedestal.
Rotary Scrubbers
Combining water with the cascading of ore, rotary scrubbers do an excellent job of breaking away clay and other soft contaminates to yield a clean ore for processing. Optional trommel screens attached to the discharge end provide size separation.
Sizes range from 1.8 m diameter x 3.2 m (5.9’ x 10.5’) length with approximate 50 tph feed rate capacity, up to 3 m diameter x 7.5 m (9.8’ x 24.6’) length with 350 tph feed rate capacity.

Ball Mills
Used for fine grinding of ores, ball mills are typically applied with feed sizes of 80% minus 15 mm (or finer) and designed to yield output of .5 mm to 40 micron or below.
Sizes range from 1 m to 5.5 m (3.3’ x 18’) diameter and 1 m to 9.75 m (3.3’ x 32’) in length. Overflow and grate discharge types allow different ball charges and yield different grind results.

Rotary Coal Breakers
Rotary coal breakers are typically utilized for the primary breaking and cleaning of run of mine coal. An assortment of lifters and plows are installed in various arrangements to control flow rates for optimum efficiency.
Sizes range from 3 m to 4 m (9.8’ x 13.1’) in diameter with lengths from 4.5 m (14.8’) up to 9 m (29.5’). Typical output sizes of 75 mm (2.95”) to 200 mm (7.9”) are produced at capacity ratings from 500 tph up to 2500 tph.

Rod Mills
Used for wet or dry grinding of coarser (25 mm) feed, rod mills are typically used to generate product sizes in the 4 mm (.16”) to 0.5 mm (.02”) range.
Sizes range from 1 m (3.3’) to 4.9 m (16.1’) diameter and 1.8 m (5.9’) to 6.1 m (20’) in length. Overflow, end peripheral and center peripheral discharge models are available, each yielding different grinding and capacity ratings.
Log Washers

Even the most agglomerated deposits are no match for the efficiency of Astec log washers. Our exclusive, “reverse involution” design has paddles arranged in a spiral pattern along the shaft, producing a much more effective scrubbing action to remove tough, plastic-soluble clays and other unwanted coatings. This unique motion ensures that some portion of material is constantly moving, leveling power demand while reducing power consumption.

Coarse Material Washers

Coarse material washers are engineered to quickly adapt to your ever-changing needs. Both single and twin-spiral designs can be easily reconfigured with numerous bolt-on paddle and flight arrangements to satisfy even the most precise specifications. Also equipped with our low power consuming, high-efficiency drive, the 500 stph throughput sets a high standard for coarse material productivity.

Blademills

Blademills are designed for seamless compatibility with your existing processing plant. The innovative double-pitch flight and ribbed-paddle design efficiently conveys material through the blademill to break up sticky clay and muddy clumps with extraordinary effectiveness. Almost all of the bolt-on ni-hard paddles and spiral flights are adjustable to best match your aggregate production needs.

Fine Material Washers

Fine material washers deliver extreme productivity when and where you need it. Engineered with high-efficiency drives, the resulting low horsepower requirement reduces operating costs while increasing throughput, ensuring your operation runs efficiently and profitably.

Classifying Tanks

Classifying tanks are engineered to maximize your profitability. The process begins with our Spec-Select™ window-based controllers and 24-volt DC bridge design, which allow simple control of the products produced, system monitoring and reporting features right from the controller. The patented design also extends to the elimination of internal tank support members, creating less turbulence and more accurate settling of the feed material. Available in sizes from 2.4 m x 6.1 m (8' x 20') up to 3.6 m x 14.6 m (12' x 48'), the capabilities of these systems are unmatched by anything else the industry has to offer.

Screening & Washing Plants

Take the power and performance of Astec on the road with our portable 1800 series screening and washing plants. Efficiently process aggregate material wherever opportunities exist. The 1800 series plants offer a fine material washer with an array of configurations – choose inclined or horizontal wet single, double or triple shaft screens with two or three decks and even add a blademill—all on a single chassis. Standard and custom-built skid mounted or stationary plants are also available with a virtually unlimited number of configurations and options to meet all of your processing needs.

Complete Washing and Classifying Systems

For a total material processing solution, Astec has engineered and manufactured the industry’s most reliable and highest-performing stationary washing and classifying plants. These custom designed plants are hard at work in every corner of the globe — each installation a model of productivity, reliability and performance.
**Conveyor Components**

Providing a complete range of conveyor idlers for underground, overland and in-plant applications including: troughing idlers, flat carrying and return idlers, impact idlers and training idlers.

Idlers are available in widths from 450 mm (17.7”) to 2100 mm (6.89”), in roller diameters from 100 mm (3.9”) to 175 mm (6.89”), and designed for 24-hour mine duty service.

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**Transfer Conveyors**

Transfer conveyors are ideal for all types of operations. For semi-mobile or in-pit portability, Transflite™ transfer conveyors are the ideal solutions and available in skid mount or dolly axle configurations. Channel or lattice frame overland conveyors are available to cover longer distances, eliminating the need for haul trucks.

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**Portable Radial Stackers**

Portable radial stacking conveyors offer the most versatile material handling solutions available on the market today. Available in standard sizes up to 1.0 m x 45.7 m (42” x 150’), these conveyors partner seamlessly with our full line of portable and stationary crushing, screening and material handling equipment. Incredibly easy to set up, portable radial stacking conveyors will have you moving material in no time.

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**Feed Systems**

Maximize the effectiveness of your entire operation with the seamless compatibility of material feed products. Our entire line of feed solutions has been designed using several decades of experience in building aggregate processing and recycling equipment. Couple this experience with versatile and innovative engineering capabilities and you receive the flawless compatibility only Astec feeding equipment can deliver — enabling you to run at peak performance and keep material moving at the rate your operation requires.

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**Extendable SUPERSTACKERS™**

Capable of creating custom-shaped, partially or fully desegregated stockpiles to fit maximum material in minimum space, the SuperStacker™ certainly lives up to its name. The standard cam-arm linkage maintains a constant radius from the pivot plate to the axle ensuring a true radial movement and uninterrupted stockpiling. Enhance your SuperStacker™ performance with the optional wizard touch automated control system. Offering preprogrammed performance to meet any job’s daily demand.

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**Complete Material Handling Systems**

Providing material to and taking material away from your processing equipment at a productive rate is vital to your profitability. Astec offers a streamlined design of highly productive material handling systems. Load and unload railcars, trucks or ships and move massive loads of material throughout your operation in no time. From tripper systems to loading or unloading, Astec has the right design, components, installation and support for your application.
Global Projects

Astec Mining Group companies are pleased to have the opportunity to partner with great mining companies around the world.

Indonesia
Freeport McMoRan
Scissor-Lift Vehicle

Niger
Samira Hill
Ball Mill

Brazil
C.V.R D - Timbopeba Mine
Cone Crusher

United Kingdom
British Gypsum
Vibratory Pick Scaler

Turkey
Power Station
Rotary Coal Breaker

Tanzania
Barrick Gold
Rock Breaker System

Venezuela
C.V.G. Ferrominera Orinoco C.A.
Crushing System: primary, secondary and tertiary crushing and screening

South Africa
Xstrata Lion
Double Toggle Jaw Crusher, Screening System

Russia
Norilsk Nickle
Primary Station: Jaw Crusher, Grizzly, Breaker System
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