



MODEL 3000 STATIONARY GRINDER

MID-WEST MACHINE™

Stationary Metal Conditioning Grinder

Additional material handling equipment such as rounds rotators, square billet manipulators, slab cars and other options also available.



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Mid-West Machine™

Model 3000 Stationary Metal Conditioning Grinder

Stationary systems are ideally suited to high production within a reasonable, specific size range. These machines are designed to grind billets, blooms, slabs, squares, round cornered squares, octagons or rounds and are readily adapted to automated material handling equipment.

State of the art solid state controls, automatic travel systems, anti-penciling systems, constant horsepower or constant force and ease of operation with a minimum of down time make **Mid-West Machine™** the logical choice for your conditioning requirements.

The Mid-West Design

Specifically designed for ease of maintenance and operation, **Mid-West Machine™** grinders feature outstanding visibility of the work area from the environmentally controlled operator's cab. The control joysticks for the operation of the grinder head and material handling car are located in the armrests of the completely cushioned, industrial quality, fully adjustable seat.



The touch screen, color HMI and data terminal displays, monitors and controls all operating sequences. The HMI also provides information and diagnostics for the electrical and hydraulic systems. An additional option includes the ability to transmit production reports to other locations as determined by the customer.

The electrical panels and hydraulic system components are arranged for easy functional checks with all components readily accessible for maintenance personnel.

These features, combined with a complete line of manipulators, slab turners, rotators, conveyors and other material handling equipment make **Mid-West Machine™** equipment the most versatile metal conditioning systems available today.

Features

Featured as standard equipment on all **Mid-West Machine™** grinders are: automatic motor load control, automatic index, safety drop-off control, environmentally controlled cabs, centralized lube systems, and industry standard 24 inch and 25 inch grinding wheels.

This new high horsepower, heavy-duty model 3000 conditioning grinder is supported by an overhead carriage and includes a feature to allow the operator to swivel the grinder allowing grinding to take place at a position of 90° or 45° from the long axis of the material being ground.

Grinder Head & Carriage

The overall unit consists of a large gantry and top mounted carriage that supports the grinder. The 300 HP grinder pivots vertically for excellent grinding response since the actual mass that must float along irregular material is minimized. The pivot frame for the horizontal change of grinding angle is supported from the overhead carriage. This arrangement allows horizontal strokes up to 80 in and vertical strokes of 40 in. The car associated with the stationary grinder can be supplied to hold and rotate rounds; or hold and manipulate squares and slabs including corner grinding (up to



40 ft long). With the wheel oriented to an angle, the ends of the material can be chamfered. The lateral travel of the car is done with an electric drive and speeds can be maintained from 4 in per minute for spiral grinding to 200 ft per minute for longitudinal grinding. Auto-grinding and anti-penciling is also available.

Operator Cab

The operators cab is climate controlled and insulated for operator comfort. The operator controls include two joysticks on the arms of the operator's chair and a touch screen panel. The speed of rotation, speed of travel and the down pressure can be adjusted "on the fly". The Mid-West controls are very responsive, minimizing metal loss. The latest controls also provide faster conditioning times resulting in higher throughput.



Additional Equipment Options

Accumulating walking beam loading and unloading equipment is available to alleviate the wait for cranes or forklifts to directly load/unload the car (typically a major cause of lost time). This equipment automatically moves material pieces from the beam load position to the car load position on the walking beam.

The equipment will index additional pieces until the load table is full. When the operator is ready for a new piece to grind the car is moved to the car load position and the walking beam places the material on the car.

As long as there is at least one piece on the load table, the accumulating walking beam will move it forward so there will not be a delay when the grinder operator is ready for the next piece. The unloading accumulating walking beam works in reverse, making sure there is always a space for auto unloading of the car.

Rounds Rotator Car: typically the multiple-wheel type, with hardened split rotator wheels keyed on line shafts and split style bearings supporting the line shafts for ease of maintenance. The line shafts can be driven with hydraulic motors or electric motors. The cars are generally driven using a two cable system although



axle drives are available where space is limited. The rounds rotator can be equipped with "Easy Downs" to provide protection to the car, rotator wheels and drive shafts, recommended when loading equipment and procedures may allow the material to "drop" on the car.

Square Billet Manipulator and Slab Manipulator Cars: these cars are also available for use with the Model 3000 Conditioning Grinders. The use of manipulator cars allows the operator to position the material for grinding all sides and corners from the cab.





Scan the Code

Use your smart phone and scan this QR code to see video of the Mid-West Machine™ Model 3000!



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MODEL 3000 STATIONARY GRINDER

Mid-West Machine™ is a product of Vulcan Engineering Co.

- Gantry for grinder travel across material
- Wheel oriented 45° or 90° from long axis of material
- Main grinder is adjustable to either of these two angles
- Grinder equipped with 300 HP for maximum metal removal
- Grinder equipped with a Live Shaft Spindle for ease of wheel change
- Rounds Rotator Car consists of multiple-wheel type with split rotator wheels on line shafts, split bearings for ease of maintenance.
- Cars can be equipped with "Easy Downs" for added safety when cars are loaded with cranes or forklift trucks.
- Cars are general driven with a two cable system using a high horsepower motor and Vector drive allowing speeds from 4 inches per minute to 200 feet per minute.
- Cars can also be axel driven using a vector drive and car mounted gear box where space is restricted.
- Stationary Swarf Collection Hood
- Close proximity, oversize cab, environmentally controlled
- Complete electrical and hydraulics
- Fully assembled and tested in Vulcan Engineering Co. facility



For more information, images and videos on Mid-West Machine™ Grinders and Equipment visit our website.

<http://www.vulcangroup.com>