



2024 Product Guide

Proudly Made in the USA for over 35 years!

109 Commerce Drive
Fort Collins, Colorado USA 80524
www.southwesterncorp.com
(970) 221-4888
Ext 101: Sales
Ext 102: Engineering
Ext 103: Accounting

Company Profile

Southwestern Corporation is an engineering and manufacturing company located and incorporated in the State of Colorado, United States of America. Southwestern began in 1986 with the sole purpose of providing equipment and services to the Electric Power Industry. Today Southwestern has several international representatives, and services over 50 major electric power and cement companies in North America and over 250 plants worldwide including Canada, Europe, Africa, Asia and Australia.

Southwestern's primary business is the design, manufacture and servicing of performance modifications and upgrades for coal pulverizers. Our work-force is experienced and familiar with the requirements and demands of our electric power station and cement plant customers. As a result, customer service and support are our first priority.

Southwestern's goal is to enhance mill efficiency resulting in improved boiler performance. By controlling spillage in the mills, and enhancing fineness of the pulverized fuel, a reduction in emissions may also be obtained.

Southwestern has developed a long-standing relationship with our suppliers who understand our requirements for quality and on-time deliveries. This has resulted in a comprehensive system of supplier/partners to meet our needs and yours.

Southwestern has a staff of highly motivated and talented people working toward a common goal...to provide quality products and service to the Electric Power and Cement Industries.



Service that is Second to None

Southwestern Products and Services

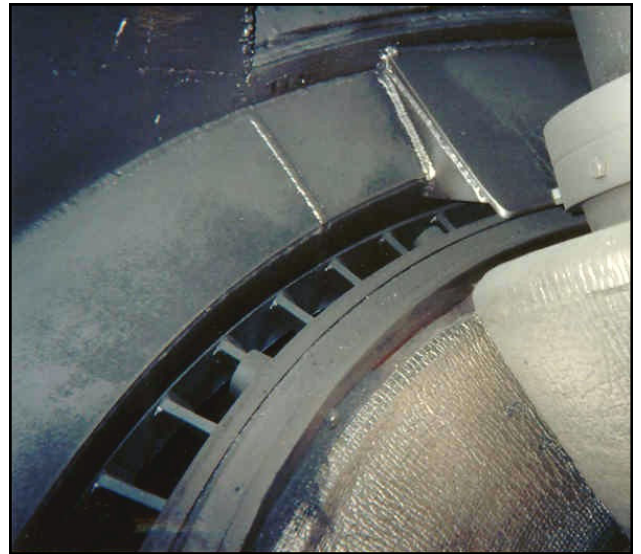
Southwestern works with all types of pulverizers; including CE, Babcock & Wilcox, Loesche and Foster Wheeler.

Page	Product
1	Rotating Vane Wheels, Rotating Throats and Rotating Air Ports <ul style="list-style-type: none">A. Rotating Vane Wheel, Throat and Air Port—<i>Kits</i>B. Rotating Vane Wheel, Throat and Air Port—<i>Replacement Segments</i>C. Body Liner and Ledge Cover—<i>Replacement Sets</i>
2	HEAVY DUTY Rotating Vane Wheels, Rotating Throats and Rotating Air Ports
3	High Performance Static Classifiers
4	Classifier Vane Adjustment System
5	Retrofit Classifier Vane Adjustment System
6	Heavy Duty Mill Sweeps <ul style="list-style-type: none">A. Heavy Duty Mill SweepsB. Replacement Blades and Spring Group
7	Brush-Type Mill Sweeps <ul style="list-style-type: none">A. Brush-Type Mill SweepsB. Replacement Cables
8	Classifier Cone Discharge Assembly
9	Burner Isolation and Seal-Air Gate Valves <ul style="list-style-type: none">A. Original Burner Isolator ValveB. Retro-Fit Burner Isolator ValveC. Sealed Burner Isolator ValveD. Diverter Valve
10	Roll Wheel Bracket Shields and Hook Guards
11	Fabrication and Repair Services
12	Technical and Support Services
13	Corporate Office Information

Southwestern Corp. reserves the right to revise or change it's products and designs at any time prior to acceptance of an order.

Southwestern Rotating Vane Wheels, Throats and Air Ports

We have combined all of our years of experience and the mill operating data from hundreds of plants to optimize our *Patented* Vane Wheel, Rotating Throat, and Rotating Air Port designs. Our improved designs allow for reduced air velocity through the throat without increasing unwanted coal spillage. This reduced throat velocity can also reduce mill differential pressure and internal mill component wear. In most cases, we have been able to achieve a reduction in mill motor amp consumption with an increase in the maximum feed rate and coal fineness.



Some of the many advantages of

- *Individually designed for operating parameters and maintenance conditions*
- *Help to reduce mill differential pressure as part of the design*
- *Multi-vane design reduces and controls spillage without higher velocities*
- *Do not use deflector liners and do not require hardened steel or cast liners*
- *Fabricated steel, instead of cast, so they are easily installed and maintained*
- *Replacement components and full kits available on short-order*

Southwestern's design include:

each plant, based on mill operat-

We are confident that Southwestern's Rotating Vane Wheel, Throat and Air Port designs will provide you with excellent service and mill performance. In fact, we welcome any opportunities for side-by-side comparisons with OEM or other manufacturers. One of Southwestern's best assets is our commitment to working with plant staff in achieving the best possible results with our equipment. Please call for a price quote for your specific mill.

Southwestern HEAVY DUTY Rotating Vane Wheels, Throats and Air Ports

With intervals between maintenance schedules ever increasing, Southwestern is pleased to offer our Patented HEAVY DUTY Rotating Vane Wheel, HEAVY DUTY Rotating Throat, and HEAVY DUTY Rotating Air Port.

The demand for increasing time between scheduled maintenance continues to rise. Our customers have been looking for solutions to increase run time without increasing down time. Our HEAVY DUTY Rotating Assemblies are the answer.

As with our traditional Rotating Assemblies, we have combined our years of experience and the mill operating data from hundreds of plants to optimize our Rotating Assembly designs. Our improved designs allow for reduced air velocity through the throat without increasing unwanted coal spillage. This reduced throat velocity can also reduce mill differential pressure and internal mill component wear. In most cases, we have been able to achieve a reduction in mill motor amp consumption with an increase in the maximum feed rate and coal fineness.



Some of the many advantages of Southwestern's design include:

advantages of HEAVY DUTY

- *Heavy Duty design increases intervals between scheduled maintenance*
- *Individually designed for each plant, based on operating parameters and maintenance schedules*
- *Help to reduce mill differential pressure as part of the design*
- *Multi-vane design reduces and controls spillage without higher velocities*
- *Does not use deflector liners or require hardened steel or cast liners*
- *Fabricated steel, instead of cast, so they are easily installed and maintained*
- *Replacement components and full kits available on short-order*

We are confident that Southwestern's HEAVY DUTY Rotating Vane Wheel, HEAVY DUTY Rotating Throat and HEAVY DUTY Air Port designs will provide you with excellent extended service and mill performance. In fact, we welcome any opportunities for side-by-side comparison with OEM or other manufacturers designs. One of Southwestern's best assets is our commitment to working with plant staff in achieving the best possible results with our equipment.

Call or email for a price quote for your specific mill.



Southwestern High Performance Static Classifier System

Southwestern's *Patented* High Performance Static Classifier provides all of the advantages of a Dynamic Classifier, with a greatly simplified installation procedure, a substantially lower cost, and no moving parts.

The purpose of the Southwestern High Performance Static Classifier System is to improve coal fineness control. Our system incorporates specific features designed to provide coal fineness improvements similar to those achieved by Dynamic Classifiers. Some installations have shown that coal fineness improvements of more than 10% can be obtained.

The High Performance Static Classifier System not only replaces the original classifier cone with a more effective classifier, but with the addition of enhanced components, the segregation of coal particles within the mill housing is greatly improved. This improved particle separation is a result of controlled flow dynamics, not an increase in classifier velocity.



© 2013 Coal Milling Projects (Pty) Ltd.

Summary of design features on Southwestern's High Performance Static Classifier System:

- *Increased classifier volume for better particle separation*
- *Spin Initiator that starts rotation before the coal/air mixture goes into the classifier vanes*
- *Larger classifier inlet area for reduction of pressure differential and vane erosion*
- *Larger vanes to impart rotation without increasing pressure differential*
- *Cyclone Separator Section to rapidly remove the larger particles from the vortex*
- *Mill Extension Section increases mill volume; required for some applications*



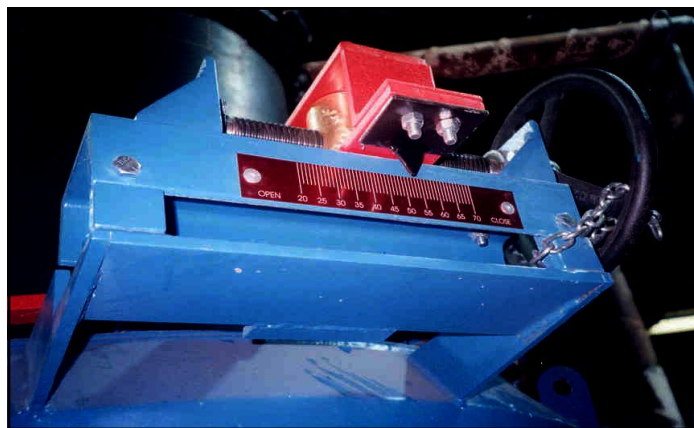
Southwestern Classifier Vane Adjustment System

The Southwestern Classifier Vane Adjustment System replaces OEM components to provide smooth, simultaneous adjustment of all classifier vanes in one operation. The Southwestern System utilizes 1-1/2" spindle shafts that won't twist or bind, longer actuator arms for increased leverage, oversized bushing blocks with grease Zerks to provide smooth operation, and an actuator that can be operated from the grating level.



OEM Adjustment System

The oversized classifier vanes are much thicker than their OEM counterpart to provide years of service. Since adjustments are no longer made from the mill top, the Southwestern Classifier Vane Adjustment System safely provides an accurate, reliable and uniform setting throughout, indicated by a single pointer on the actuator.



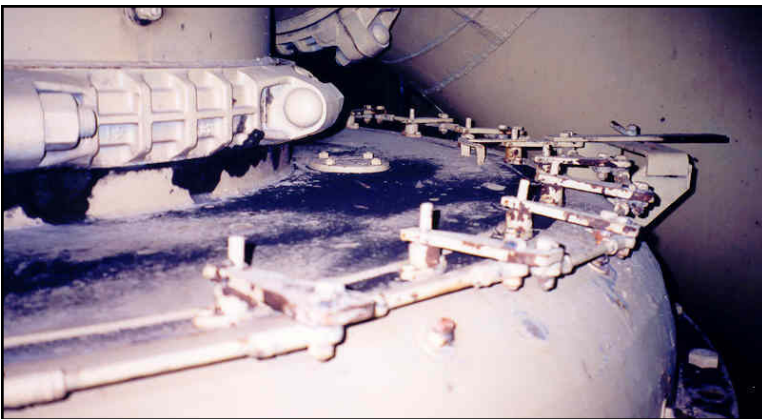
Vane Adjustment System for your application.

Call today for a quote on a Southwestern Classifier

Southwestern Retrofit Classifier Vane Adjustment System

The Southwestern Retrofit Classifier Vane Adjustment System is designed to work in tandem with OEM classifier components to provide smooth, simultaneous adjustment of all classifier vanes in one operation. The Southwestern System replaces the problematic OEM gang-type adjustment system using two different methods, depending on plant needs and budget.

Utilizing the OEM classifier vanes and spindle shafts, Southwestern Retrofit System replaces the OEM adjustment system with longer actuator arms for increased leverage, and an actuator that can be operated from grate level.



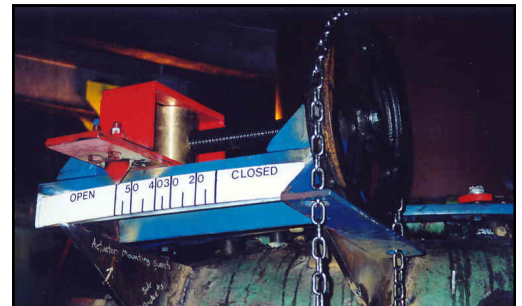
Example of an OEM gang-type adjustment system. This system provides little leverage to move stuck spindle shafts.

OEM mill top retrofitted with Southwestern's replacement actuator arms and slewing ring.



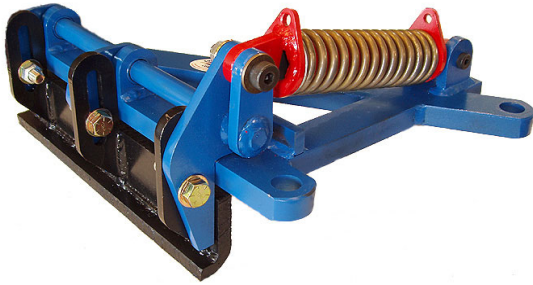
Left—Upgraded actuator arms for use with the OEM spindle shafts.

Right—Actuator assembly that can be operated from the grating level.



Southwestern Heavy Duty Mill Sweeps

Southwestern's *Patented* Heavy Duty Mill Sweep was developed for clients who wanted a lightweight alternative to the OEM pyrite scraper, but the Brush-Type Mill Sweep was not heavy enough to clear excessive rejects and tramp iron.



Typical CE-type Third Generation Heavy Duty Mill Sweep

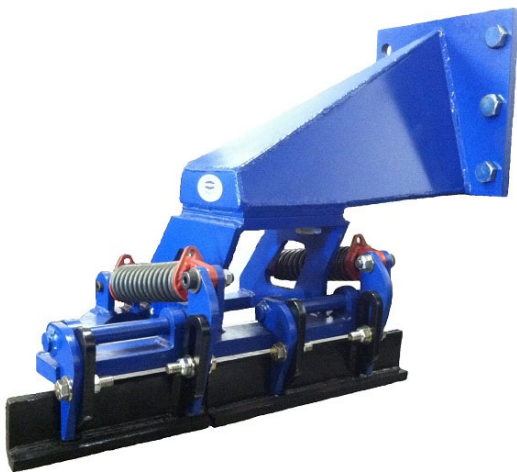
The Third Generation Heavy Duty Mill Sweep is designed with a chrome clad overlaid scraper blade which is loaded using a heavy duty, high temperature rated compression-spring shock absorber (as opposed to torsion spring arrangement seen on other types of scrapers) and the scraper blade is adjustable up to three vertical inches to optimize sweeping efficiency and compensate for mill floor and sweep bar wear.

Like its predecessors, the Third Generation Heavy Duty Mill Sweep is much lighter and easier for your mechanics to handle when it comes time to install, repair or replace. The scraper blade and the shock assemblies are both fully replaceable and the entire assembly is less expensive than other OEM alternative pyrite scrapers.



MPS-89 Sloped Bottom Third Generation Heavy Duty Mill Sweep

Best of all, the entire assembly weights less than 70 pounds*! Additionally, customers with large amounts of reject rock or extended overhaul schedules will find our Third Generation Heavy Duty Mill Sweep to be more effective than our original designs.



New HP-Type Heavy Duty Mill Sweep

Both Southwestern's Brush-Type and Third Generation Heavy Duty Mill Sweep offer a great improvement over the conventional pyrite scrapers as a light-weight, extremely durable, low-cost replacement alternative. We offer replacement scraper blades and shock assemblies to further extend the life of the sweeps.

We currently have Third Generation Heavy Duty Mill Sweep designs for CE, Foster Wheeler, and B&W mills. Call today for a price quote.

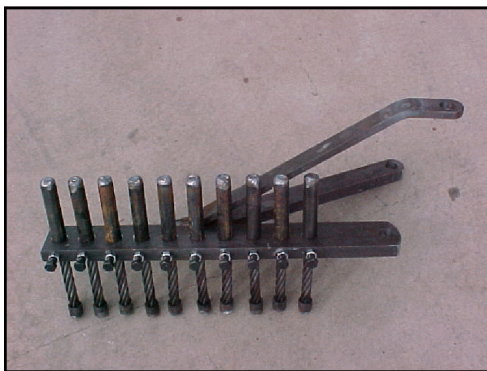
* The maximum weight for a CE-type 'HD3' Sweep for CE-763 to CE-1103 series mills.

Southwestern Brush-Type Mill Sweeps

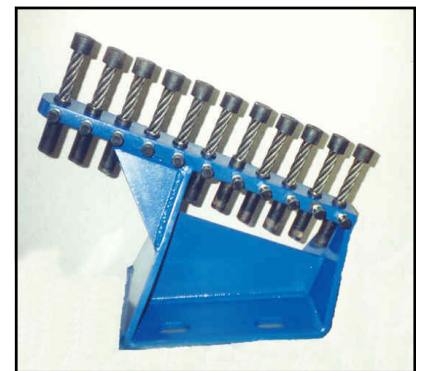
The *Patented* Brush-Type Mill Sweep, one of our most popular products, is a replacement for the OEM's Pyrite Scraper/Plough. They are much lighter and easier for mechanics to handle when it comes time to install, repair or replace them. Best of all, they are far less expensive than the OEM equipment.



We also offer an additional design for CE mills, the High Mount Brush-Type Mill Sweep. This design uses the existing shaft skirt flange bolts for attachment. The standard mounting flanges are no longer used. This makes for a very easy way to replace scrapers whenever the standard mounting flange has become damaged or broken. Additionally, some customers with large amounts of tramp iron have found our High Mount Sweep to be more reliable and less likely to be broken off.



CE High-Mount Sweep



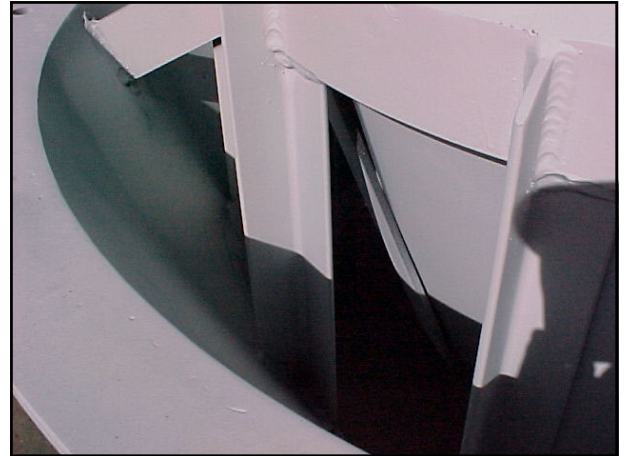
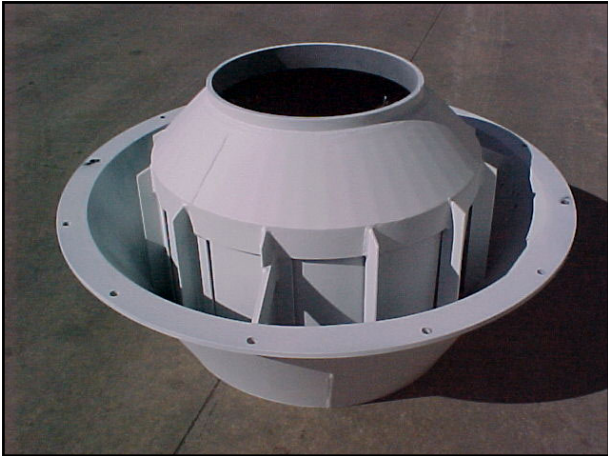
MPS-Type Sweep

Southwest-
-Type Mill

ern's Brush
Sweeps are

a great improvement over the conventional pyrite scrapers offering a light-weight, extremely durable, low cost replacement alternative. We also sell replacement cables, which further extend the life of these sweeps. We currently have replacement Mill Sweeps for CE, Foster Wheeler, Babcock & Wilcox and Allis-Chambers mills. Please call us for a price quote for your specific mill application.

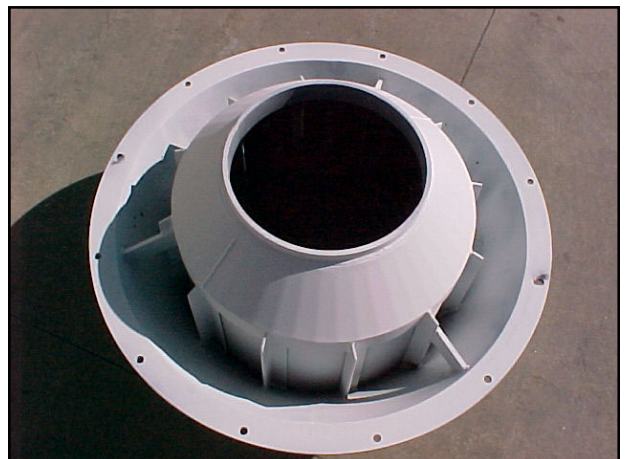
Southwestern Classifier Cone Discharge Assembly



The Southwestern Classifier Cone Discharge Assembly is a substantial improvement over the OEM discharge gate arrangement in both B&W MPS-type and Foster Wheeler MBF-type mills. After years of evaluating mill performance concerns we have found that the discharge gates on most of these mills are a constant problem. As a result, Southwestern developed a complete replacement lower cone discharge assembly.

Loss or jamming of discharge gates is no longer a problem with the Southwestern hinge design. Each gate door is individually suspended by two hardened steel chain links that insure the gates will not drop off. The new hinge design eliminates the pivot shafts or rubber hinges that so frequently fail from debris and heat. The gates also have an internal counterweight to maintain a seal when necessary, but are closely balanced to provide minimal opening resistance to recirculating coal.

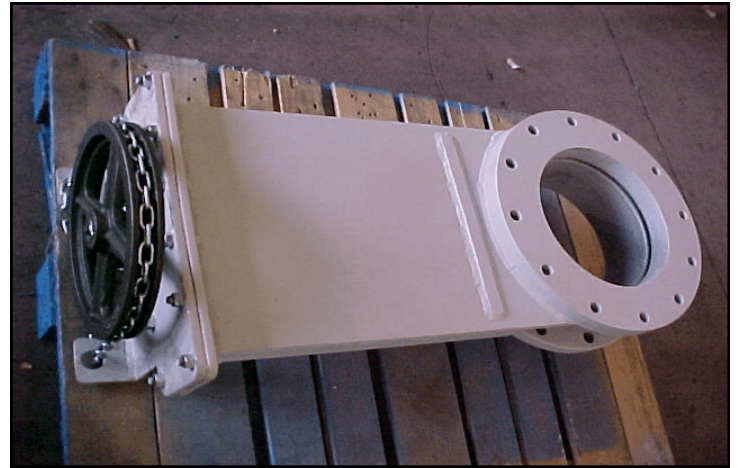
These assemblies can be supplied as a weld-in or direct bolt-in replacement to you existing OEM discharge assembly. Call for a quote today.



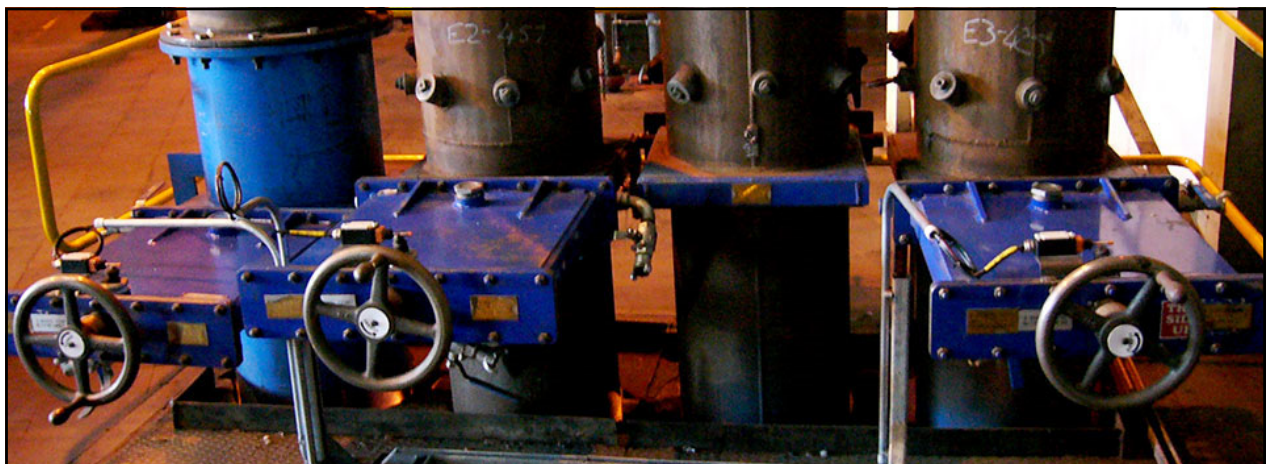
Southwestern Burner Isolation and Seal-Air Gate Valves

The Southwestern designed Burner Isolation, Seal-Air Gate, and Diverter Valves have been developed to provide a wide variety of benefits for your Plant. By utilizing the Southwestern Burner Isolators, you can easily isolate your coal transport piping from your boiler.

This allows you the flexibility to work on your coal pulverizers and coal transport lines **with the unit ON-LINE**, while complying with the latest NFPA code requirements. Most of Southwestern's Burner Isolation Valves can also be supplied with an Orifice Plate in addition to the Blanking Plate. This not only allows the plant to isolate the lines for maintenance, but independently balance the flow when the lines are in service. As always, **SAFETY** is a top priority for your equipment and personnel, so all of Southwestern's Valves conform to the latest NFPA code requirements.



Each Valve is designed for 50 psi rated service, and pressure tested at 200 psi. We offer a wide variety of installation methods including weld-in, bolting flange, and Victaulic coupling rings. Please call us for a price quote that will apply to your specific valve needs.

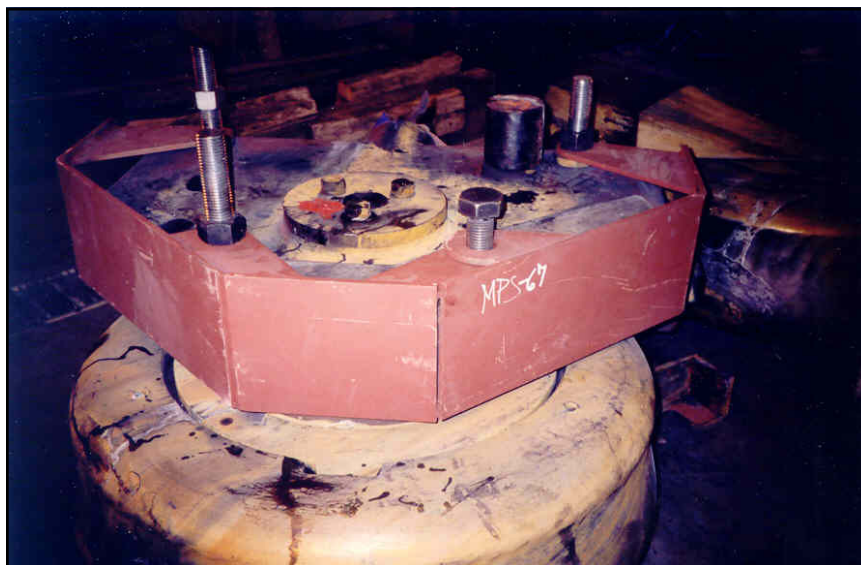
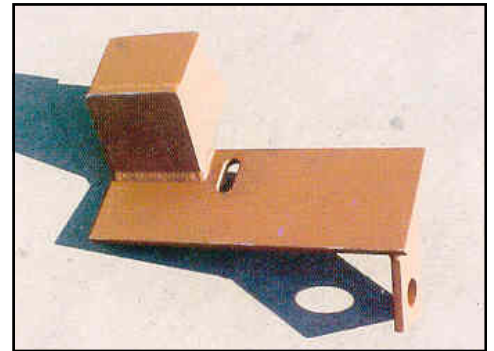
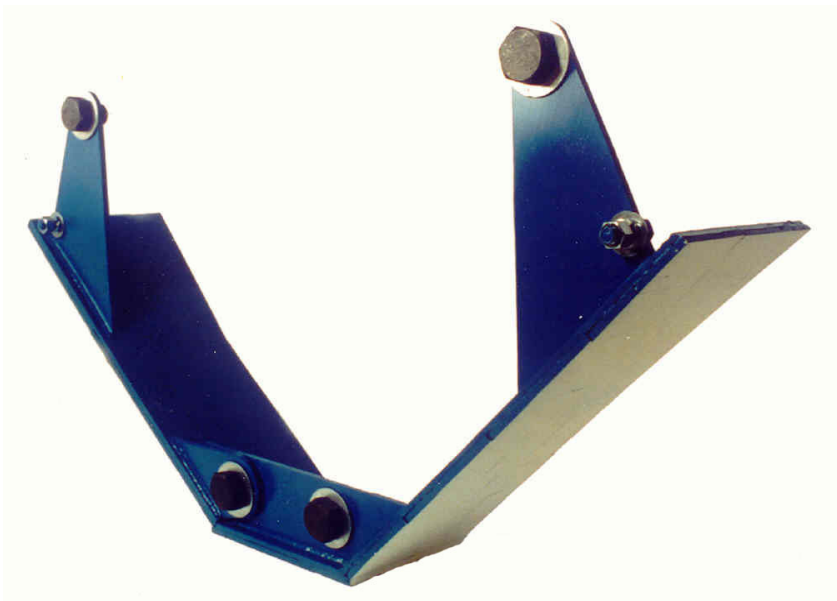


© 2013 Coal Milling Projects (Pty)

Southwestern Roll Wheel Bracket Shields and Hook Guards

The Southwestern version of the Roll Wheel Bracket Shield for the Babcock & Wilcox MPS-type mills is an important addition to any plant utilizing a Southwestern Rotating Throat assembly. Typically, the OEM equipment only protects the lower right side of the Roll Wheel Bracket, which is imperative with Stationary Throats. With Southwestern's design, the entire bracket is shielded from the redirected airflow induced by the Rotating Throats. In addition, our Shields are designed to accept an optional Hook Guard that adds protection for the Roll Wheel Bracket lifting hooks.

We currently offer Roll Wheel Bracket Shields for the B&W MPS-89, MPS-75, and MPS-67 mills.



Southwestern Fabrication and Repair Services

In response to our customers demands, Southwestern offers specialty fabrication and repair services for the Power and Cement Industries. Southwestern will provide direct replacement parts, or we can custom fabricate components to your specifications. Below are just some of the parts and services that Southwestern provides:

Fabrication services

- Classifier cones
- Classifier discharge systems
- Coal chutes
- Coal feeder transitions
- Exhauster dampers and shafts
- Hoppers
- Inverted cones
- Mild steel coal piping and elbows
- Outlet extensions
- Pulverizer classifier components
- Pulverizer table extension rings
- Rolled rings, cones and cone sections
- Turning vanes
- Wear plates, shields and liners



CNC Plasma Cutting Table

Repair Services

- Complete mill overhauls
- Journal overhauls
- Riffle distributors
- Spring canister rebuilds



Southwestern Technical and Support Services

Southwestern Technical and Support Services offer practical and financial rewards to your pulverizer maintenance staff. Through our training, consulting and testing services, we can help your staff become better equipped to identify and handle maintenance issues, collect and understand pulverizer performance data and plan for future work.

Consulting

- Solutions to milling plant problems and improvements
- On-site technical support

Pulverizer Training Seminars

- Pulverizer operation, maintenance, performance, and testing.

Pulverizer Performance Evaluations

Pulverizer Testing

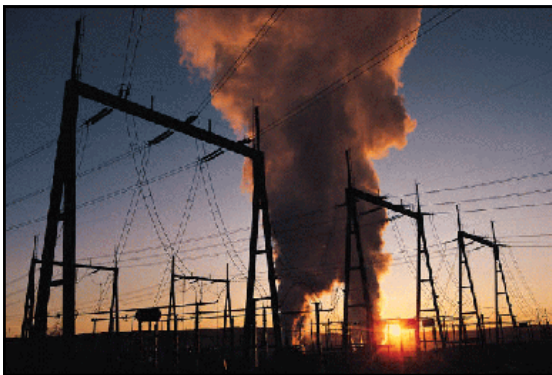
- Air flow, coal fineness, PF distribution, over-all performance documentation/audit

Written Test Programs

- Defined objectives for plant personnel or subcontractors

Inspection Services

- ***Pulverizer*** - Babcock & Wilcox, Combustion Engineering, Foster Wheeler, Loesche and Raymond
- ***Windbox*** - Including air registers, burners and tilting- tangential corners



Southwestern Corporate Office

North American Headquarters:



**Southwestern Corporation
109 Commerce Drive
Fort Collins, Colorado USA 80524**

Phone: 970-221-4888

Ext 101: Bob Nauta, Sales

Ext 102: Stu Hicklin, Engineering

Ext 103: Accounting

Fax: 970-221-0597

Email: southwesterncorp@earthlink.net

On the web: www.southwesterncorp.com

**For our custom fab shop, please visit
www.southwesternfab.com**