



B&W ROLL WHEEL® PULVERIZERS

THE PULVERIZER OF CHOICE





The B&W Roll Wheel® pulverizer design results in superior mill performance and cost benefits.

Value and dependability built into every pulverizer

Successfully managing the assets of today's coal-fired power plant requires an understanding of the many components that make up a complete system. Reliable coal pulverizer performance is one element that is essential for sustained responsive power plant operation.

More than the name has changed

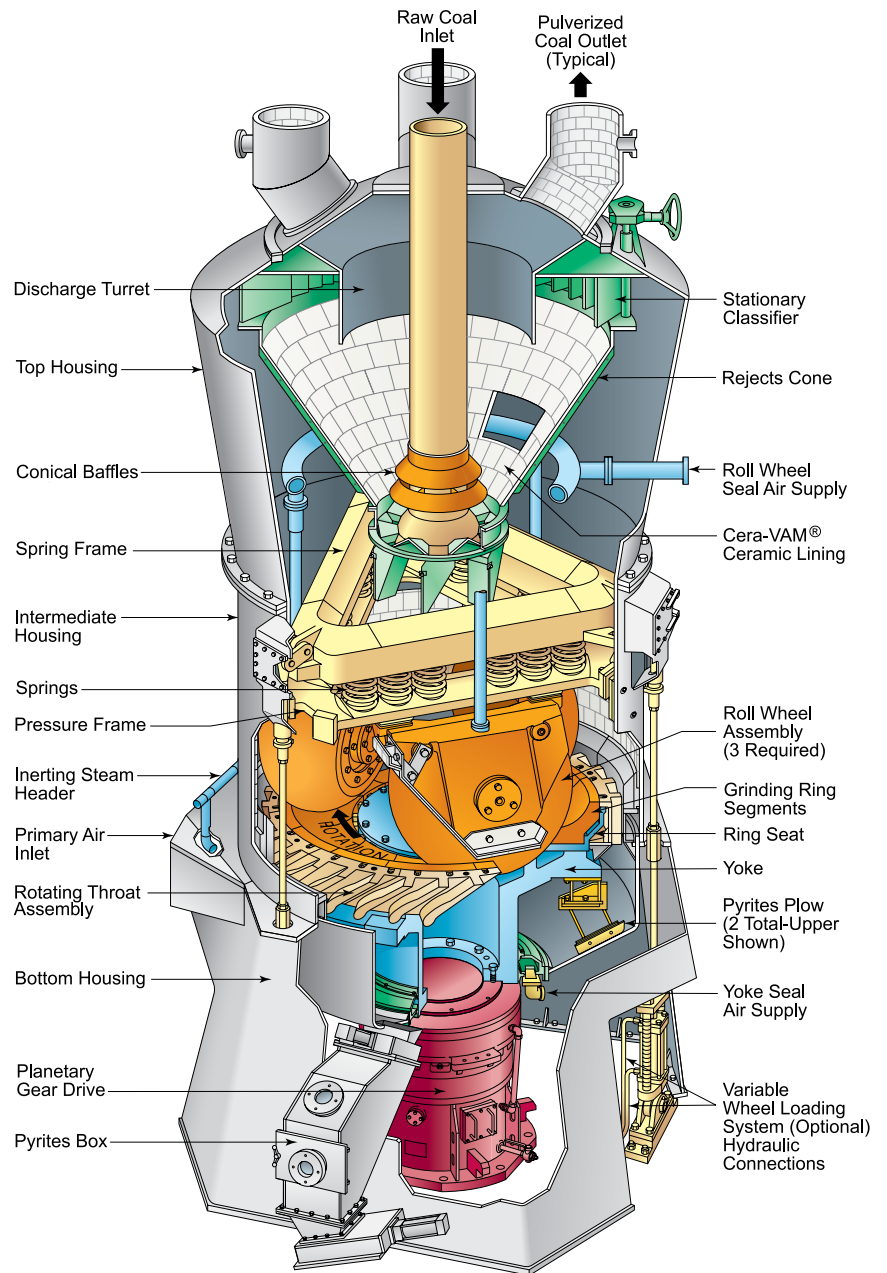
Since introducing the roll wheel pulverizer, Babcock & Wilcox Power Generation Group, Inc. (B&W) has made substantial and extensive modifications and improvements to the original design. These major design changes have significantly improved boiler load-following capability and overall performance of the roll wheel pulverizer.

B&W has designed, manufactured and placed in operation more than 1,100 roll wheel pulverizers, grinding a wide range of coals at power stations throughout the world. The B&W Roll Wheel® pulverizer has set the standard for high availability, reliable operation and low maintenance. These benefits contribute to stable steam generator performance regardless of station duty.

No other supplier's roll wheel mill is interchangeable with the B&W Roll Wheel pulverizer. It is the one and only roll wheel pulverizer designed for U.S. service.

Performance and cost benefits of the B&W Roll Wheel pulverizer:

- Reduced operating and maintenance costs
- Capacity maintained throughout wear cycle
- Lower pressure drop
- Flexible load-following capability
- Excellent turndown
- Improved component wear life via ceramic protection
- Improved combustion efficiency (reduced unburned carbon) when used with a DSVS® classifier
- Ability to achieve optimum fineness when grinding a wide range of coals via on-line adjustment of roll wheel pressure and classifier speed
- Easy maintenance through a single, large access door
- Fully backed by B&W technical design experts and local field engineering support personnel



▲ The B&W Roll Wheel pulverizer has set the standard for value – high availability, reliability, durability and ease of maintenance.

Height (ft/m)	B&W Roll Wheel® Pulverizer Capacity Chart					
40/12.2						
30/9.1						
20/6.1						
10/3.0						
Pulverizer Size	B&W-56™	B&W-67™	B&W-75™	B&W-89™	B&W-98™	B&W-118™
Capacity: lb/hr*	37,000**	60,000	90,000	136,000	168,000	230,000
Capacity: kg/hr	16,800	27,200	40,800	61,700	76,200	104,300

* Nominal capacity at 50 HGI, 70%/200 mesh capacities shown are for "G"-size pulverizers

** B&W's EL-type pulverizers are available in capacities from 6,000 lb/hr (2,700 kg/hr) to 40,000 lb/hr (18,100 kg/hr) for smaller capacity applications

Design features for new and retrofit pulverizer applications

B&W continuously develops new technologies to improve the reliability and overall performance, and to reduce the operation and maintenance costs of the roll wheel pulverizer. Our design innovations have proven effective in applications worldwide.

WEARESISTOR™ tires increase wear life

B&W's patented WEARESISTOR™ asymmetric roll wheel tires are designed for extended service life. Each tire includes additional material in the high-wear areas of the tire's cross-section. B&W also offers the WEARESISTOR LP (low-profile) tire and LP grinding ring segments. This grinding element design combines the extended wear life of the asymmetric design with a low-profile geometry.

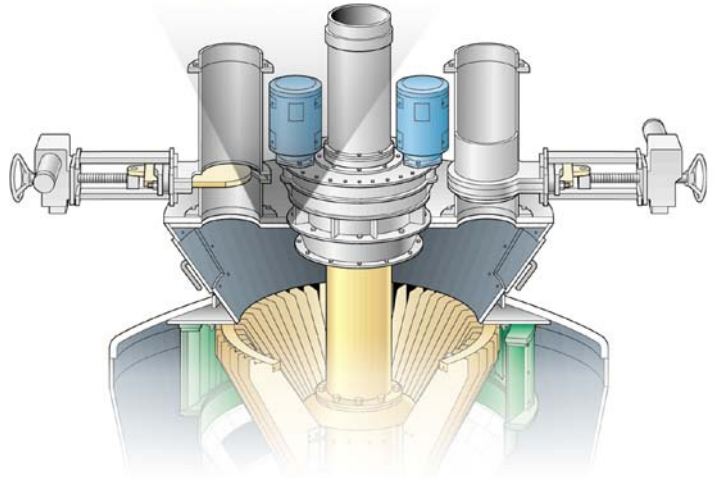
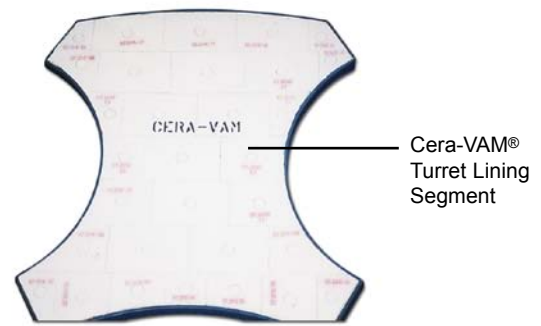
Field results have shown a reduction of pulverizer power consumption while maintaining fineness, capacity and turndown. The extra wear material incorporated in the WEARESISTOR and WEARESISTOR LP tire/segment designs extends the grinding element wear life, and thus reduces maintenance costs.

Erosion-resistant ceramic components

B&W pioneered the use of Cera-VAM® lining, a high density alumina ceramic, for erosion resistance in coal-pulverizing systems. Cera-VAM outperforms cast abrasion-resistant steels, irons, silicon carbides and cast basalt to protect against destructive erosion by abrasive coals. Cera-VAM reduces maintenance requirements by extending wear-life cycles. For many coals, Cera-VAM protected components outlast several sets of grinding parts.



▲ B&W's WEARESISTOR and WEARESISTOR LP tires incorporate extra wear material into high-wear areas to extend service life and reduce maintenance costs.



▲ Cera-VAM® lining outperforms cast abrasion-resistant steels, irons, silicon carbides and cast basalt to significantly extend the wear life of pulverizer components.

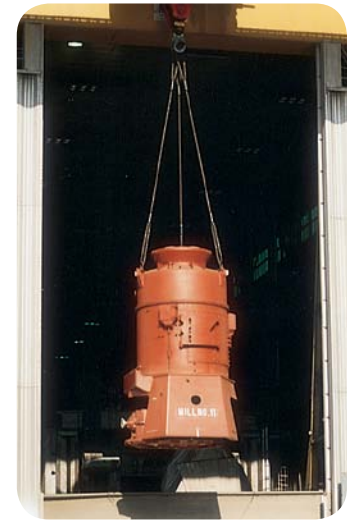
Gearbox options provide reliable operation and less maintenance

B&W's triple-reduction, spiral-bevel geardrive was the first removable coal pulverizer drive in the United States. Our design has demonstrated an unsurpassed record for reliability and lower maintenance costs. B&W's planetary geardrive, with its compact construction, offers an economical option for select pulverizer models.

To return geardrives to as-new conditions for superior operation, we offer a comprehensive remanufacturing program for geardrive assemblies.



▲ The planetary geardrive is a compact option for select pulverizer installations.



▲
B&W provides flexible shipping and assembly arrangements based on each customer's unique requirements.



▲
B&W's original triple-reduction geardrive has demonstrated an unsurpassed record for reliability and low maintenance costs.

Rotating throat provides optimal primary air control

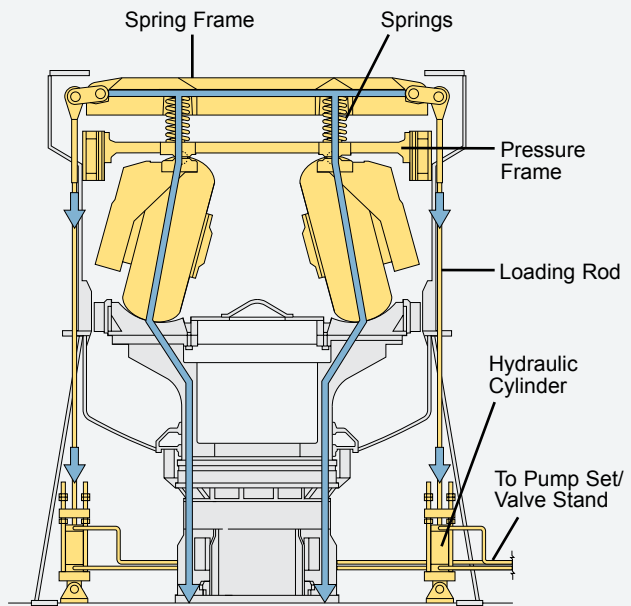
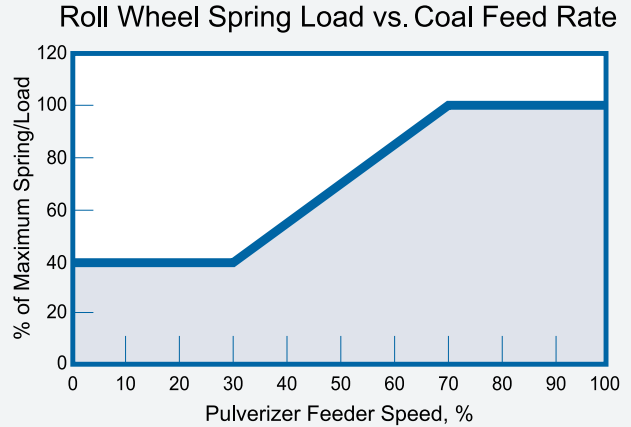
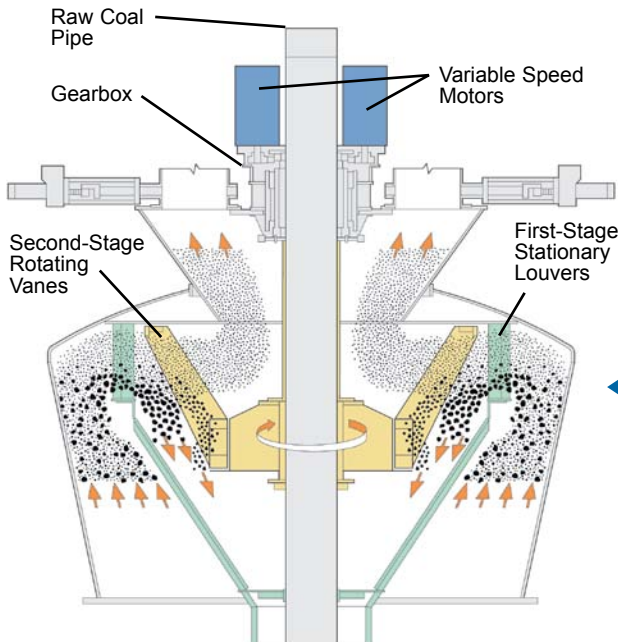
The vertical-wall low pressure drop rotating throat provides optimal primary air distribution, permitting pulverizer operation at recommended primary air-to-fuel ratios. As a result, the rotating throat reduces coal spillage that can occur with poor air distribution and high pressure drop that occurs when operating at higher than recommended primary air-to-coal ratios. It also more than doubles the wear life compared to the stationary throat. On new applications, the rotating throat minimizes fan power requirements, and in upgrade installations, reduces operating costs. It also allows removal of the gearbox without disassembling the throat components.

DSVS® rotating classifier

B&W's exclusive DSVS® rotating classifier incorporates the best features of both the stationary (static) and rotating classifiers, and can be installed in new or retrofit applications. The DSVS classifier offers increased flexibility to take advantage of a wide (and sometimes lower quality) range of coal. For existing equipment, the DSVS classifier helps in low-NO_x burner retrofits by providing higher fineness that reduces unburned carbon. Fineness levels can be adjusted by changing the classifier speed while the mill is on-line. The compact DSVS classifier can be easily installed on existing B&W and non-B&W pulverizer equipment.

Auto-spring™ loading system for improved turndown and coal quality variation

B&W's Auto-Spring™ pulverizer loading system controls roll wheel loading on-line based on the coal feed rate. As a result, the Auto-Spring loading system can extend the turndown range. It allows improved high load pulverizer performance while maintaining important low load operating capability. The springs allow the rollers to move with the irregularities of the coal bed, isolating the motion from other pulverizer components.



Retaining the features of our standard fixed loading system, B&W's Auto-Spring™ pulverizer loading system controls roll wheel loading on-line to provide extended turndown capability.

Smooth ID grinding segments for easy removal

Smooth inside diameter (ID) grinding segments allow easy wedge bolt removal with improved access to wedge bolt heads. This permits easier removal of the grinding segment at the end of its useful life.

▶ The DSVS® rotating classifier provides operators the flexibility to take advantage of a wide range of coal grades and realize potential fuel cost reductions.

B&W Roll Wheel pulverizer features translate to operation and maintenance benefits

Feature	Benefit	Availability
Cera-VAM® Ceramic lining: Intermediate housing Classifier cone Turret Roll wheel wear bracket	Extended wear life and lower maintenance	Standard
Rotating throat	Reduces pulverizer pressure drop: optimal primary air control; reduces throat maintenance	Standard
Planetary geardrive	Economical and dependable drive	Optional
Triple-reduction geardrive	If desired to match existing equipment	Optional
Smooth ID segments	Easier removal from ring seat	Standard
Original profile tires	Available option	Based on owner's specific application
WEARESISTOR™ asymmetric tires	Extended wear life	
WEARESISTOR™ LP asymmetric tires	Extended wear life and reduction in power consumption	
Single, large access door	Easy access to internal components	Standard
Stationary louver classifier	Economical where coal quality is consistent	Standard
Adjustable louver classifier	Economical on-line fineness adjustment; improves operating flexibility where coal quality varies	Optional
DSVS® classifier	Reduces pressure drop; improves particle size distribution with less coarse end material; greater operating flexibility	Optional
Fixed loading system	Economical and dependable where coal quality is consistent and pulverizers are primarily base loaded	Standard
Auto-Spring® loading system	Extends turndown range; reduces pressure drop at high loads; improves operating flexibility	Optional

The B&W Roll Wheel pulverizer can be custom designed to meet specific operational or product challenges. The above table highlights those features that are standard on each pulverizer, as well as the options available to meet specific needs. These design features can be installed on existing B&W Roll Wheel pulverizers.

Designed for easy maintenance

The B&W Roll Wheel pulverizer is designed with lower maintenance in mind. The components are arranged so that work can be performed through a single, large maintenance door. Specially designed tooling is provided with the pulverizer allowing a crew to handle pulverizer components efficiently and safely. The gearbox design permits easy removal without pulverizer teardown.

With our pulverizer's small footprint and large maintenance door, 360-degree access is not necessary, making it the perfect choice for both new and retrofit applications.

The B&W Roll Wheel pulverizer is a very reliable, low-maintenance plant component.



▲ A single, large access door, small footprint and specially designed tooling are features of the B&W Roll Wheel pulverizer that help reduce maintenance costs.

delivering

proven results

Babcock & Wilcox Power Generation Group, Inc. is a subsidiary of The Babcock & Wilcox Company (B&W). Established in 1867, B&W is a world leader in providing steam generating and emissions control equipment, nuclear operations and components, and defense program management services.

For more information, or a complete listing of our sales and service offices, call 1-800-BABCOCK (222-2625), send an e-mail to info@babcock.com, or access our website.

www.babcock.com



Today, with more than 1,100 B&W Roll Wheel pulverizers sold worldwide and six different sizes burning a variety of coals, B&W has the proven design and operating experience to meet your specific project requirements. This performance has made the B&W Roll Wheel pulverizer the pulverizer of choice for coal-fired boiler operators and owners.



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