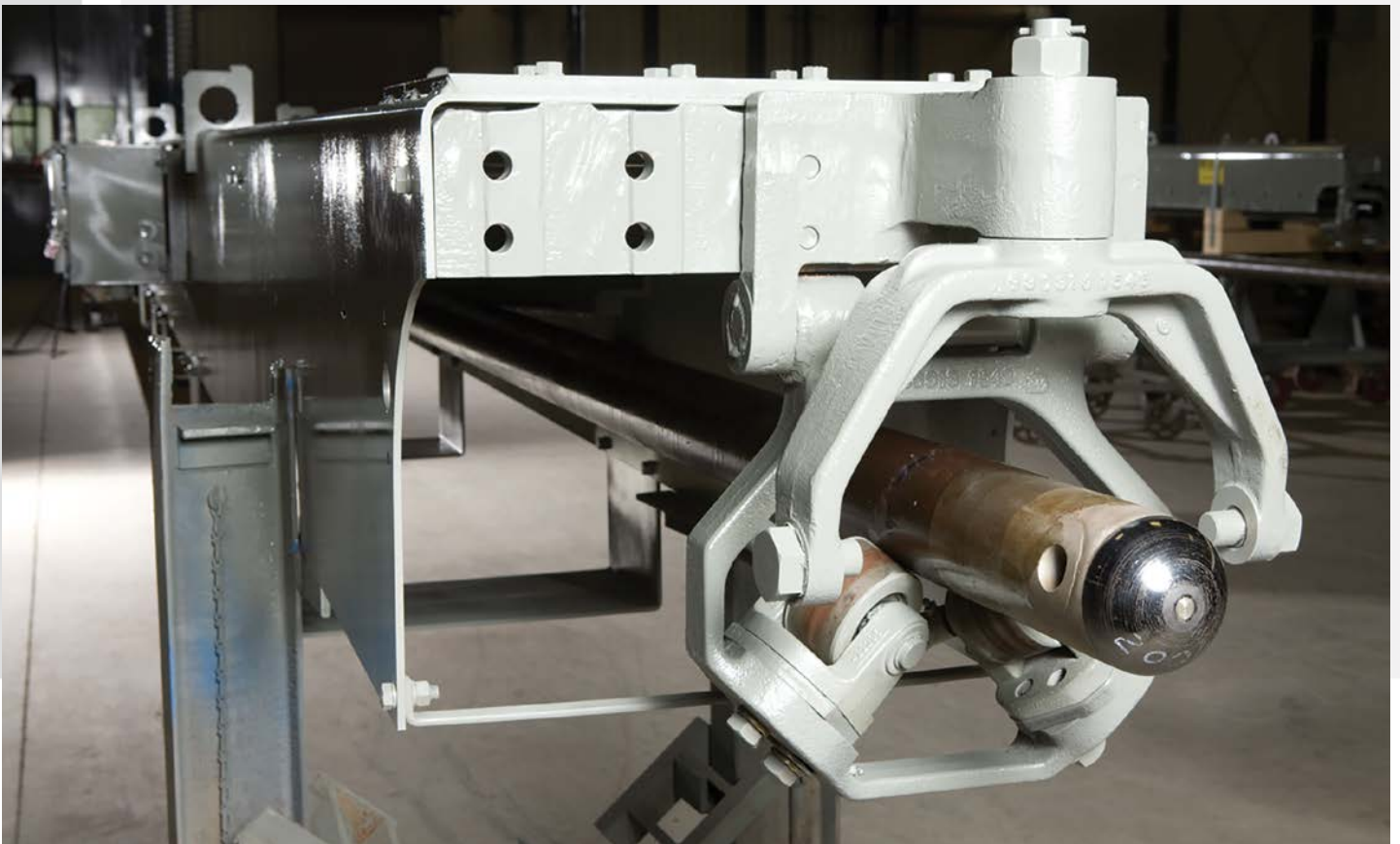


Diamond Power® IK-555™

Long travel retractable sootblower



ENERGY | ENVIRONMENTAL

IK-555™ long travel retractable sootblower

When choosing sootblowers to clean the world's largest boilers, utilities have come to rely on Diamond Power® IK-555™ retractable sootblowers supplied by Babcock & Wilcox (B&W).

We lead the industry in providing advanced long, retractable sootblower designs. Our extensive experience gives us a unique perspective on the optimal, most efficient and cost-effective way to clean large boilers that burn a variety of fuels, in any operating condition.

We help identify and package a comprehensive, systems-based solution to boiler cleaning, whether on new boilers or existing units, replacing competitive designs that have performance, deflection, or whipping issues. A unique deflection correction feature on the Diamond Power IK-555 sootblower is imperative for travel lengths of more than 45 ft (13.7 m) to minimize potential performance problems. This is why more Diamond Power sootblowers are installed worldwide than any other brand.

The Diamond Power IK-555 sootblower's proven technology, backed by the B&W team, is the preferred solution for big boilers with big cleaning needs.

Components

A. Superior Deflection Correction

The contoured rack on the IK-555 sootblower prevents the nozzle from traveling outside a controlled, small radius. This advanced lance tube deflection, combined with a specific nozzle helix, provides effective cleaning over the complete boiler tube surface, maintaining a consistent cleaning path without whipping.

B. Low Maintenance Carriage Options

The IK-555 retractable sootblower is equipped with a severe duty gearbox to match your application. A common lubrication reservoir for the drive gear and lance hub provides a full circulating bath during operation. With the industry's only all-clad stainless steel stuffing box, all Diamond Power carriages also undergo final fit tests with gear rack alignment, providing for proper gear alignment and maximum service life.

- **Carriage Option:** The PowerTrain® carriage, designed for harsh operating conditions and frequent cycles, offers high-temperature service, without periodic maintenance.
- **Carriage Option:** The IK-555 sootblower can also be supplied with an IK-555CR™ carriage. This is of particular interest to customers who have existing IK-555 sootblowers. The IK-555CR gear box combines the features of an updated, low-maintenance design, while providing an interchangeable carriage for existing IK-555 sootblowers.

C. High Performance Nozzles

High performance venturi nozzles deliver maximum blowing with minimal erosion impact. This efficient use of the blowing medium aids in the cleaning process, and contributes to economical operation of the sootblower.

D. Lance Tube and Drive

Dual rack and pinion drives provide lance stability and equalized driving torques during forward and reverse travel of the blower.

E. Robust Design

While the IK-555 sootblower provides maximum cleaning efficiency and reliability, it is engineered and built for simple operation and maintenance. The enclosed construction of the box-type beam provides maximum protection for all working parts. Only one traveling motor, to both propel and rotate the lance, is required.

F. Mechanically Operated Poppet Valve

The IK-555 sootblower is equipped with a solid mount poppet valve, hydrostatically tested at 1.5 times the operating pressure. The poppet valve mounting is separate from the feed tube mounting. A 2-bolt attachment allows quick removal of the feed tube without disconnecting the poppet valve. This unique design gives the IK-555 sootblower the industry's highest steam piping load capacity.

G. Dual Rack and Pinion Gear Drives

The pinion gear is held at precisely the right position in the gear rack by a solid square bar roller support. This allows the full involute gear drive set to achieve smooth rolling contact between the rack and gear faces, even after years of service. Because of the extreme nature of boiler environments, both the gear rack and lower square bar roller support are bolted to the sootblower beam shell, so segments are easily replaceable. All fasteners are lubricated for easy maintenance.

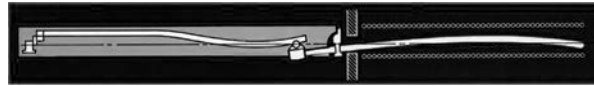
H. Field Mounted Control Box

The IK-555 sootblower meets NFPA standards for arc-flash protection. Water- and dust-tight, and fully compliant with OSHA electrical shock avoidance standards, the control box can be mounted at any point along the beam or at an alternate location for convenience and safety. The simple bracket and quick connect power supply system allow the control box to be shipped and mounted separately, which reduces shipping costs and risk of damage.

H. Field Mounted Control Box with Quick Connect Plugs

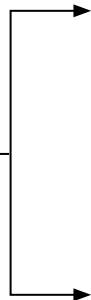


A. Superior Deflection Correction



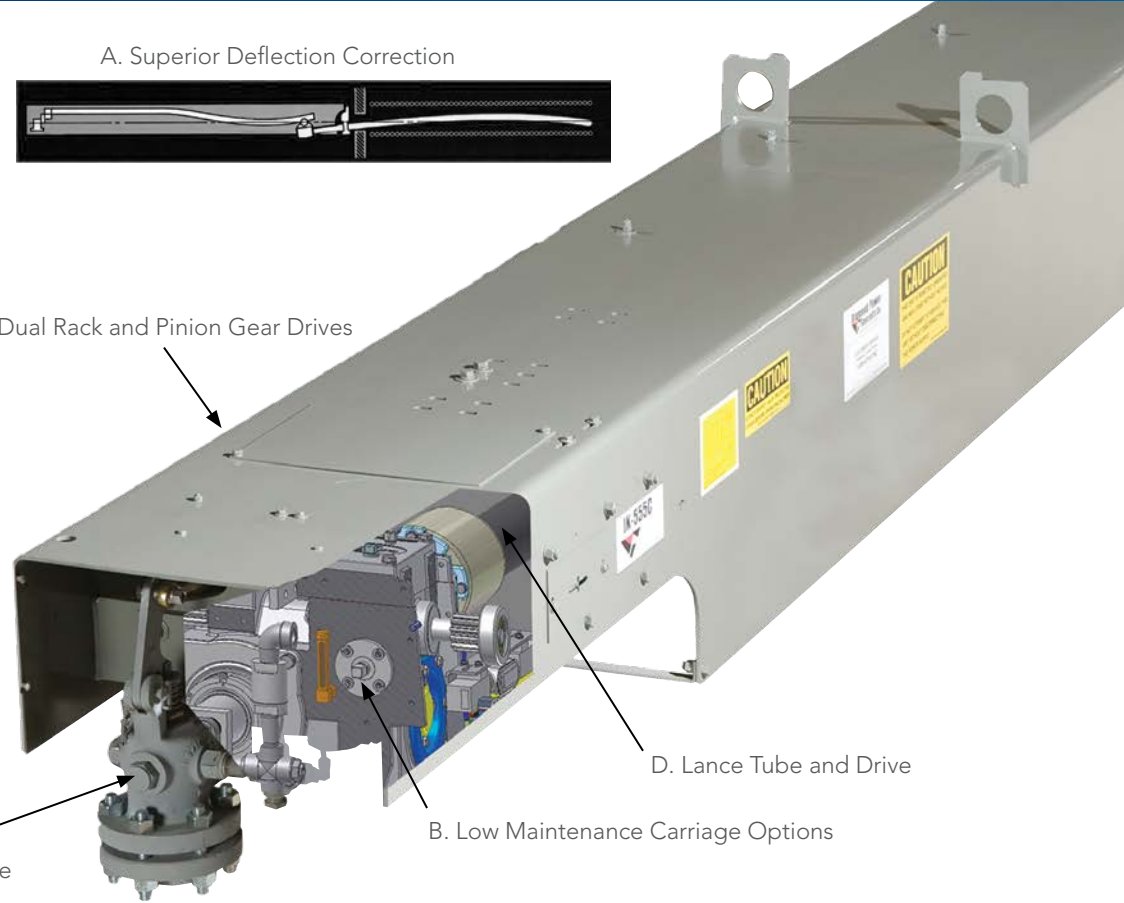
G. Dual Rack and Pinion Gear Drives

E. Robust Design



B. Low Maintenance Carriage Options

F. Mechanically Operated Poppet Valve



D. Lance Tube and Drive

C. High Performance Nozzles



I. Optional Indexing Mechanism (not shown)

The optional Diamond Power progressive helix mechanism will index the lance tube an exact, predictable amount at the start of each blowing cycle. This improves boiler tube cleaning coverage, reduces boiler tube erosion caused by excessive sootblowing, and reduces lance tube *heat set* by allowing the lance tube to come to rest in a different rotational orientation at the end of each cycle.

■ **Benefits**

- Robust design provides long life and increased reliability
- Unique deflection correction design confines rotating nozzle to a small radius when extended
- Proven to have excellent ROI and long service life
- Reliable low maintenance design with minimal service points
- Meets OSHA / NFPA standards for ARC flash protection



Solid mount poppet valve

Specifications

Blower coverage	45 ft - 7 in. to 56 ft (13.9 m to 17 m)
Travel speeds	100 and 140 in./min (254 or 356 cm/min)
Lance helix	8 in. (203 mm)
Motor data	2 hp, available in a variety of insulation classes, enclosures, voltages and frequencies to meet customer requirements
Feed tube material	304 stainless steel (Diamonized® feed tubes are optional)
Lance tube material	1 ¼ chrome-molybdenum vanadium high strength alloy
Power supply	Standard power link cable system with traveling limit switches (Optional Expanda cable with beam mounted limit switches)
Blowing medium valve	Diamond Power® poppet valve with removable flexible seat and disc and integral adjustable pressure control; valve seats are hard faced
Limit switches	Proximity and mechanical limit switches are available
Mounting arrangements	Pivot mounting standard; wallboxes available for either pressurized or balanced draft firing



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Babcock & Wilcox supplies Diamond Power boiler cleaning and Allen-Sherman-Hoff ash handling equipment and systems.

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