

# IK-1M™

## Part Retractable Sootblower



### General

The IK-1M™ is a part retractable sootblower designed to clean the heat transfer surfaces of boilers firing ash producing fuels.

Applications include coal or oil fired boilers, economisers, air heaters, fluidised bed, waste heat, HRSG, Co-Gen and Biomass boilers.

### Cleaning Principle

The IK-1M™ cleans the heating surfaces with jets of high pressure air or steam. A series of nozzles, positioned on a travelling jet element, traverses the cleaning area before returning to the rest position ready for the next cycle. The element is permanently located inside the boiler and is designed

on an individual basis to provide maximum cleaning result.

### Jet Elements

The IK-1M™ jet element is permanently located inside the boiler and is available in a variety of materials to match strength, temperature and corrosion requirements for each unique region of your boiler. Material selection is based on the flue gas composition and gas temperatures.

### Drive Arrangement

The carriage has a travelling motor drive, which, through reduction gearing and a lead screw, translates the carriage along a supporting guide tube. A lance tube, attached to the carriage, propels a multi-jet

element across the boiler. Blowing medium, controlled by an integral poppet valve, is transmitted to the nozzles on the element through a feed tube to provide the required cleaning energy. The complete mechanism is supported and protected by a rigid beam.

### Operating Cycle

The operating cycle begins with the IK-1M™ in the fully-retracted position. When power is applied to the drive motor, the carriage moves forward and a trip pin on the carriage operates the poppet valve linkage to open the poppet valve, thus admitting blowing medium to

the cleaning element. The carriage continues its forward movement until a trip bracket operates the front limit switch. This action reverses the drive motor rotation and the carriage movement. As the carriage reaches its retracted position, the trip pin again operates the valve linkage to close the valve. The trip bracket operates the rear limit switch to stop the sootblower at the rest position.

**Operating Controls**

The IK-1M™ sootblower is

normally operated from a remote panel in the control room. Control options available include, local push-buttons on the terminal box and operation from an individual starter box adjacent to the soot blower. Once started the IK-1M™ goes through its cleaning cycle automatically. Limit switches control the extent of travel and are automatically reset at the end of the cleaning cycle. The IK-1M™ can also be operated manually in the event of power failure and for

maintenance purposes.

**Health & Safety**

All Diamond Power® sootblowers are provided with protective guard arrangements to provide personnel safety from moving parts and hot surfaces in full compliance with the EU Machinery Directive.

**Options:**

Oscillating carriage design available.



**Specifications:**

<b>Blower Travel/Coverage</b>	Travel up to 1,500mm / Coverage up to 18,500mm
<b>Motor Data</b>	Single Electric Motor: 0.55 kW, TEFC, IP55
<b>Travel Speed</b>	10.2mm/s with 25mm Helix
<b>Blowing medium valve</b>	Diamond Power® mechanically operated poppet valve with integral pressure adjustment.
<b>Blowing Medium</b>	Steam or air up to 128barg at 500°C.
<b>Feed tube material</b>	304 Stainless Steel, ground and polished OD
<b>Jet Tube</b>	Carbon steel, low alloy chromium molybdenum steel and high alloy stainless steel.
<b>Plus Pressure</b>	Seal Air 0.54-1.8 Nm <sup>3</sup> /min 150mm W.G. above furnace pressure.
<b>Protection</b>	Fully guarded in compliance with EC Machinery Directives.

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