

# SITSON INDIA PVT. LTD.

## SINGLE MOTOR LONG RETRACTABLE SOOT BLOWERS

- **Single motor drive.**
- **High efficiency cleaning.**
- **Minimum steam consumption.**
- **Simple and Robust construction.**
- **Minimum maintenance.**

### Application :

On load effective cleaning of heating surfaces in high temperature flue gas zone of various types of Boilers or heat exchangers.

### Typical Location :

Boiler superheater or furnace zone.

### Operation :

Cleaning action is achieved by means of steam at high velocity through venture nozzles suitably located or diametrically opposite on rotating lance, which travels into the area to be cleaned, automatically,

At the end of predetermined limit of the blowing travel the lance reverses and retracts into wall box when the valve closes.

A crank handle is provided for emergency retraction of the lance.

An integral valve is operated automatically by limit stops on the lance travel mechanism to admit or shut off the supply of steam/air to the lance for blowing operation.

Single electric motors for traverse and rotation of lance is provided.

SINGLE STATIONARY MOTOR FOR FORWARD / RETURN AND ROTARY MOVEMENT OF LANCE

CARRIAGE RETRACTS LANCE AUTOMATICALLY AFTER BLOWING AND ALSO OPERATES THE CLEANING MEDIUM SUPPLY VALVE

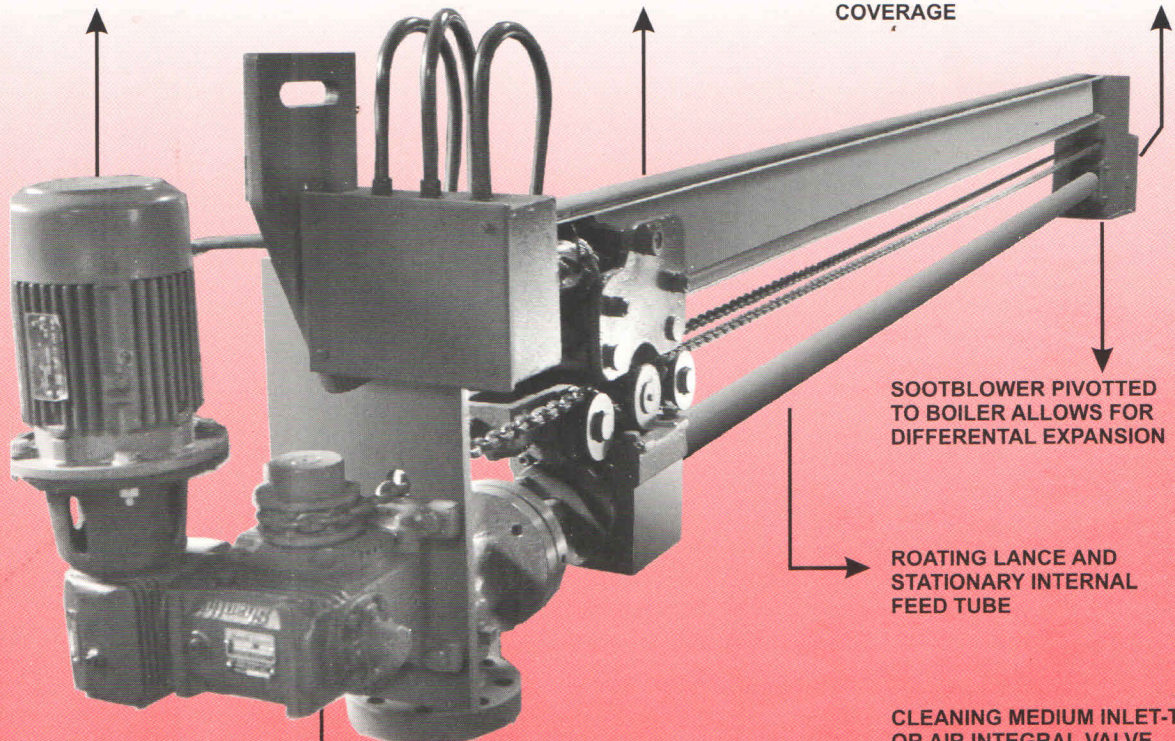
TWO VENTURI PORTED NOZZLE RUNS DIFFERENT BLOWING PATHS ON FORWARD AND RETURN TRAVEL TO GIVE FULL CLEANING COVERAGE

SOOTBLOWER PIVOTTED TO BOILER ALLOWS FOR DIFFERENTIAL EXPANSION

ROTATING LANCE AND STATIONARY INTERNAL FEED TUBE

GEAR-BOX AND CHAIN DRIVE WITH HAND-WIND FACILITY FOR COMMISSION AND IN EVENT OF POWER FAILURE

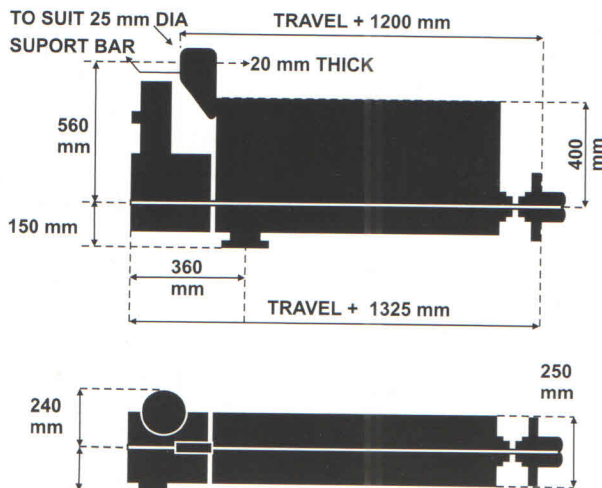
CLEANING MEDIUM INLET-TEAM OR AIR INTEGRAL VALVE SYNCHRONIZED WITH LANCE TRAVEL CONTROLS THE BLOWING PRESSURE AND SUPPLY OF CLEANING MEDIUM





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### SPECIFICATIONS:

Travel	2 to 6 mtrs
Weight	230 kgs + 45 kg per meter of travel
Steam supply	Upto 45kg /cm <sup>2</sup> =4600C
Electric Supply	3 Phase 440V
Motor	0.5KW(0.75 H.P).0.75KW (1 H.P)
Electrical enclosure	IP-55
Effective Blowing Radius	800 mm.to 2000mm
Rate of Lance travel	1.5 to 3.5m/min.
Rate of Lance Rotation	8.4 R.P.M
Lance material	To suit the temperature zone.

### PROTECTION :

Depending upon the site conditions and soot blower is enclosed along the full length by removable sheet covers.

### INTEGRAL VALVE :

Positive opening and closing by robust mechanical linkage actuated by lance carriage. Operation of valve is closely synchronised with the position of the nozzle to ensure precise timing of steam injection and shut-off at the start and finish of the blowing period. Valve casting is carbon steel or molybdenum steel to suit pressure and temperature Valve seat is stellite.

### RELIABLE DRIVE :

The lance is traversed and rotate by means of a chain drive using alloy steel calibrated chain.

### MOUNTING OF BOILER :

A slotted lug is provide at the motor and for suspended mounting. At boiler end a wall box tube with companion flange is normally provided. The soot blower and companion flange are connected by trunnions, the pivoting action allows for differential expansion between soot blower and boiler.

### WALL BOXES :

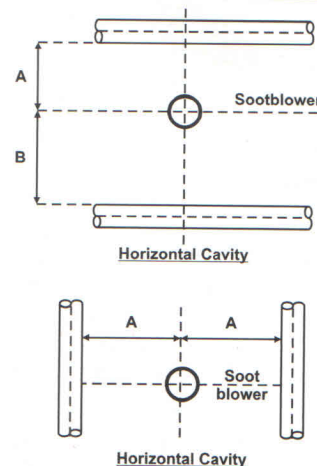
Alternative designs of wall boxes are provided to match the conditions like positive gas pressure or negative gas pressure.

### CONTROLS :

Operations is initiated by a local push button or automatically from a sequential control panel. Various schemes for controlling either single or multiple soot blower installations are available.

### CAVITY DIMENSIONS :

STROKE METRES	A MILLIMETERS	B MILLIMETERS
4.0	120	220
4.3	140	240
4.6	160	240
4.9	170	250
5.2	175	260
5.5	180	270
5.8	190	280
6.1	200	290





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## ROTARY SOOT BLOWERS

FOR BOILERS, SUPERHEATERS, ECONOMISERS.

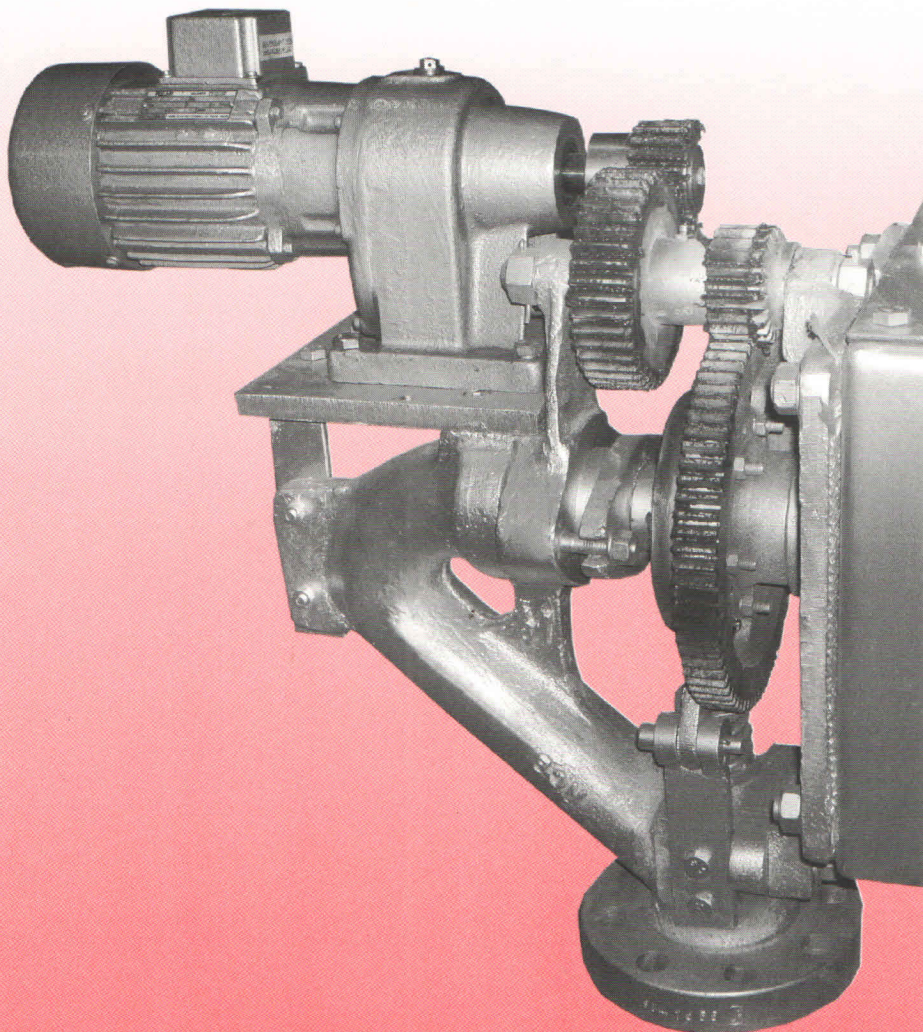
### ROTARY & RETRACTABLE TYPES

Soot blowers are used to keep the boiler surfaces free from deposits of dust & grit which would otherwise reduce the rate of heat transmission in the boiler, reducing the boiler efficiency, reducing availability. This loosely adhering layer is a definite impediment to the transfer of heat & should be removed after it has built up sufficiently to result in significant increase in flue gas temperature. Regular soot blowing is essential for Boilers, Superheaters & Economisers heating surfaces if the high thermal efficiency is to be maintained.

#### The Soot Blowers consists of :

- Element Rotating mechanism (Head) manual or motorised with loose valve or built in valve.
- Element (Blowing Tube): Stainless steel or carbon steel depending upon the flue gas temperature.

The usual form of element is a dead end tube projecting through the boiler setting & extending into the tube bank. Number of small lateral ventury nozzles of special alloy are provided on the tube & the external head is arranged so that high pressure steam can be admitted to the tube (element) & at the same time the element rotated around its axis, to ensure maximum coverage of heating surface. The element can be rotated through any desired blowing angle.



**FG - SG - 007**

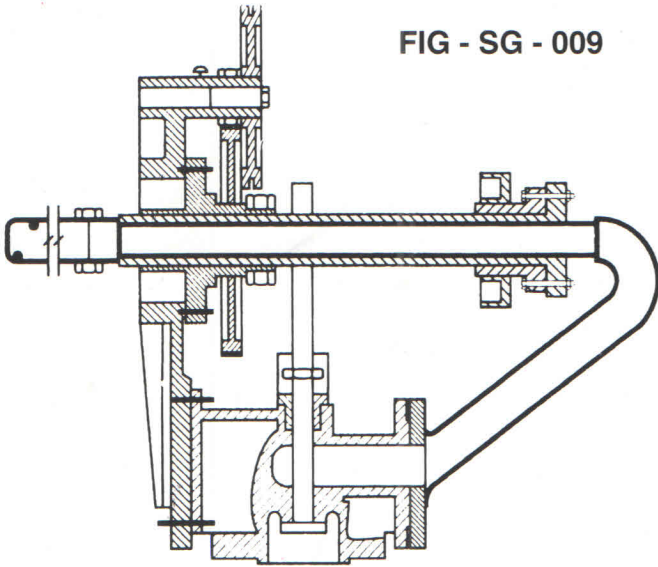
**ROTARY BUILT - IN VALVE TYPE**



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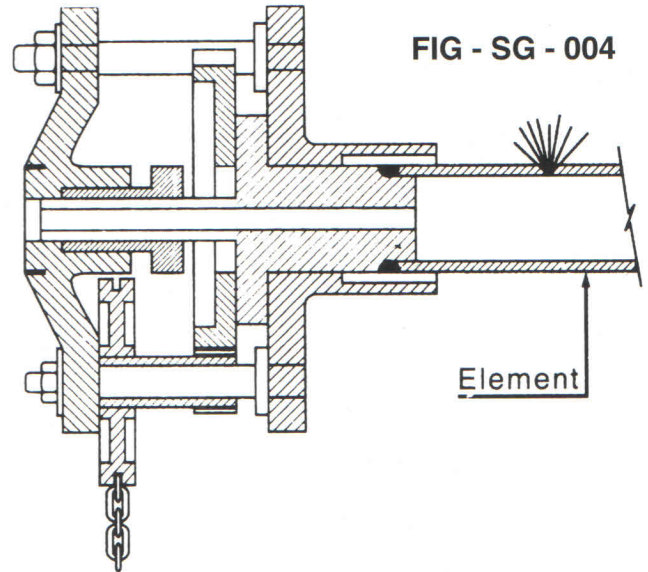
## SHORT RETRACTABLE

FIG - SG - 009

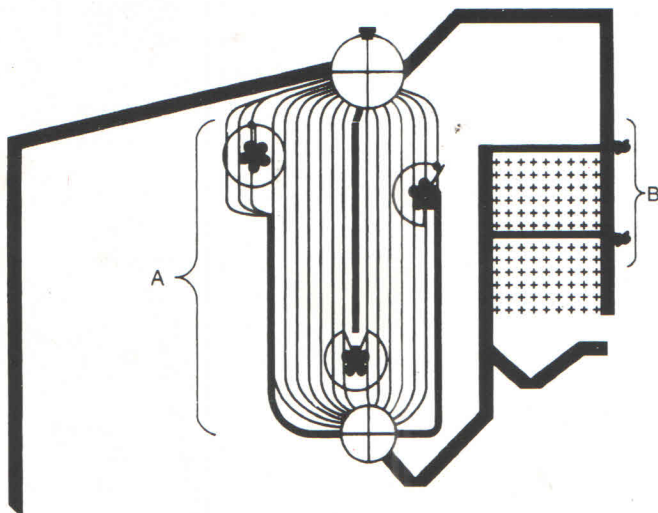


## ROTARY LOOSE VALVE TYPE

FIG - SG - 004

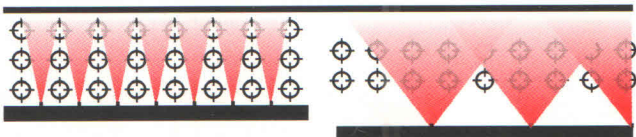


## TYPICAL SOOT BLOWING ARRANGMENT



A - Lane blowing

B - Mass blowing



- **MOTORISED OR MANUAL**
- **FULLY AUTOMATIC WITH SEQUENTIAL OPERATION**
- **ROTARY**
- **RECIPROCATING**
- **SHORT RETRACTABLE**
- **LONG RETRACTABLE**

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