INDUSTRIAL BOILERS
AMERICA

Model O

Furnace Wall Sootblower

www.industrialboilersamerica.com

OVERVIEW

Model O Furnace wall sootblower is a short travel retracting type unit used principally for cleaning furnace water wall tubes. It may also be used as an ash or slag removal blower for division wall tubes and generating tube banks when gas temperatures prohibit use of multi-nozzled , rotating, fixed element blowers, or where the available tube spacing does not permit using long travel retracting-type blowers.

MODEL O MAIN TECHNICAL DATA

• Travel	:	267mm (10.5”)
• Travelling moving speed	:	290mm/min (11.42”)
• Rotation speed	:	2.3rpm
• Blowing head	:	0.8~1.5MPa
• Medium consumption	:	~30Kg/2.76min
• Nozzle number & size	:	1 x φ25.4mm (1”)
• Nozzle back rake angle	:	3”
• Efficient blowing radius	:	~2m (78.7”)
• Electric motor	:	0.18KW/3P/50Hz
• Weight	:	~110Kg

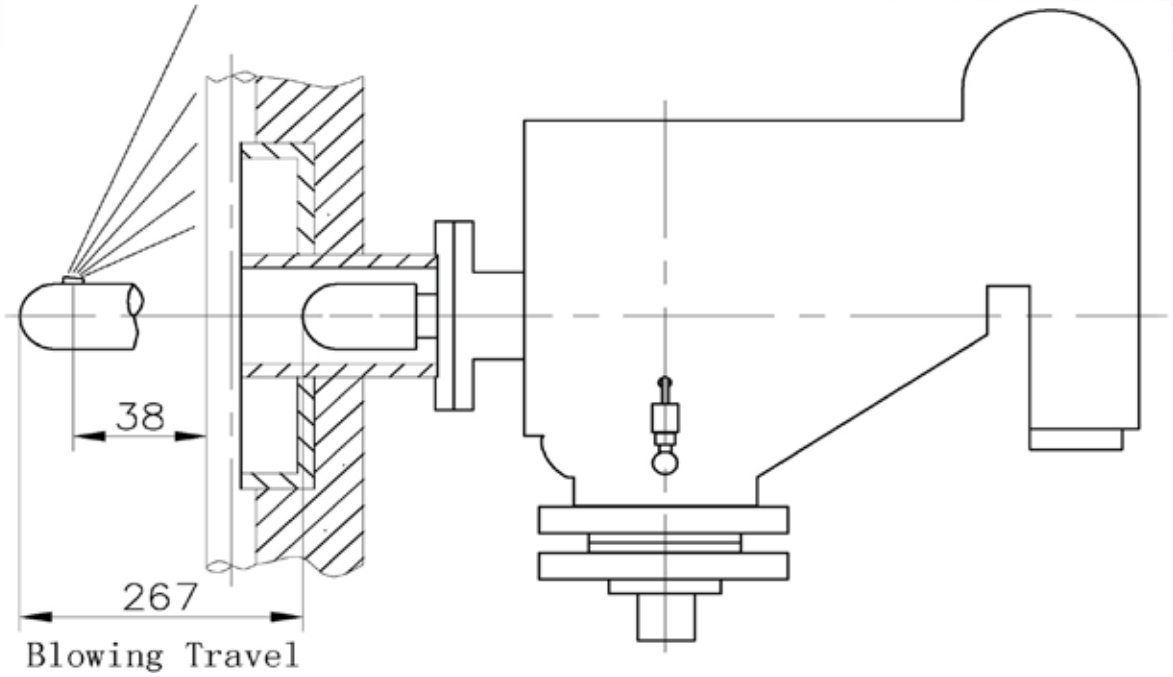
MODEL O SPECIALITY

- Electric motor drive and manual operation.
- Flexibility and multiplicity in mounting arrangements.
- Easy and convenient adjustment for revolution of sootblower.
- Blowing pressure can be changed with the changement of adjustable pressure control disc.
- Blowing medium: steam-gas, saturated steam, compressed air.
- Flexible soft valve seat design will assure tight sealing with temperature changing.
- Effective control for blowing start-end point prevents the cut pipe phenomenon from happening.

STRUCTURE DESCRIPTION

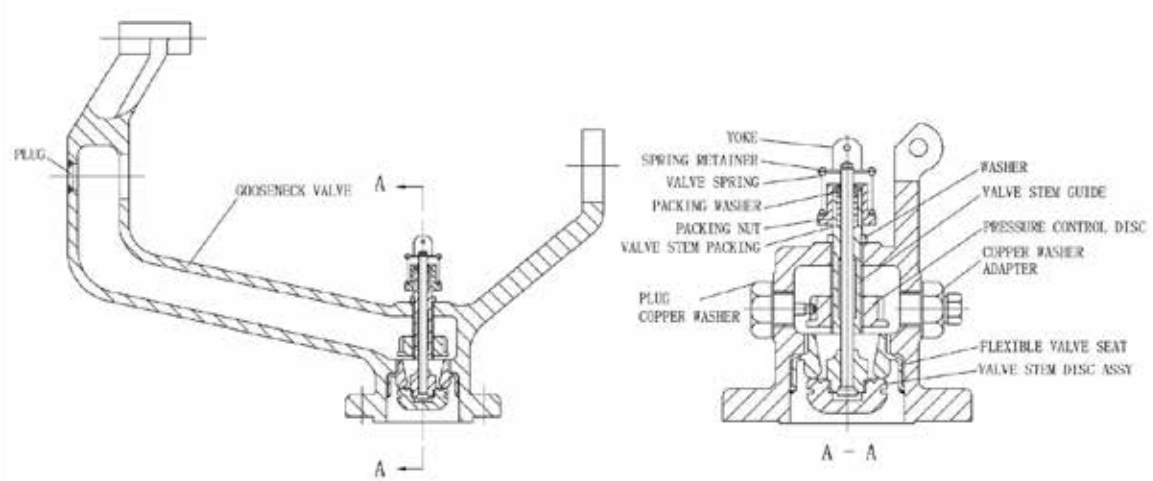
Model O Furnace Chamber Sootblower is mainly composed of the following major subassemblies:

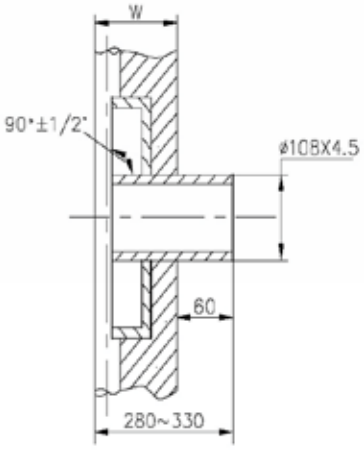
- Blower Valve - Gooseneck Valve
- Feed Tube
- Blowing Gun and Nozzle Head
- Reducer Transmission System
- Mounting Plate and Guide Bar System
- Shield and Cover
- Electric Control System and
- Wallbox.



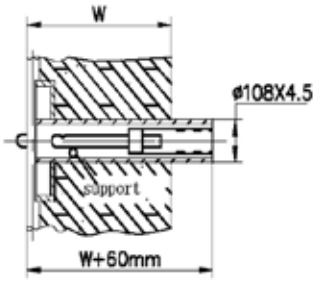
BLOWER VALVE - GOOSENECK VALVE

Gooseneck valve (it shapes like a gooseneck) is the main supporting component of the blower to control the blowing medium such as steam or compressed air. It is located at the bottom of the blower and supports all other parts. There is pressure adjustment equipment inside and a start arm is installed on this valve, which is controlled by the cam flange to open or close the valve. A one-way air valve is also installed on this valve to protect the blower by preventing the corrosive gas in the boiler from moving into the blower.

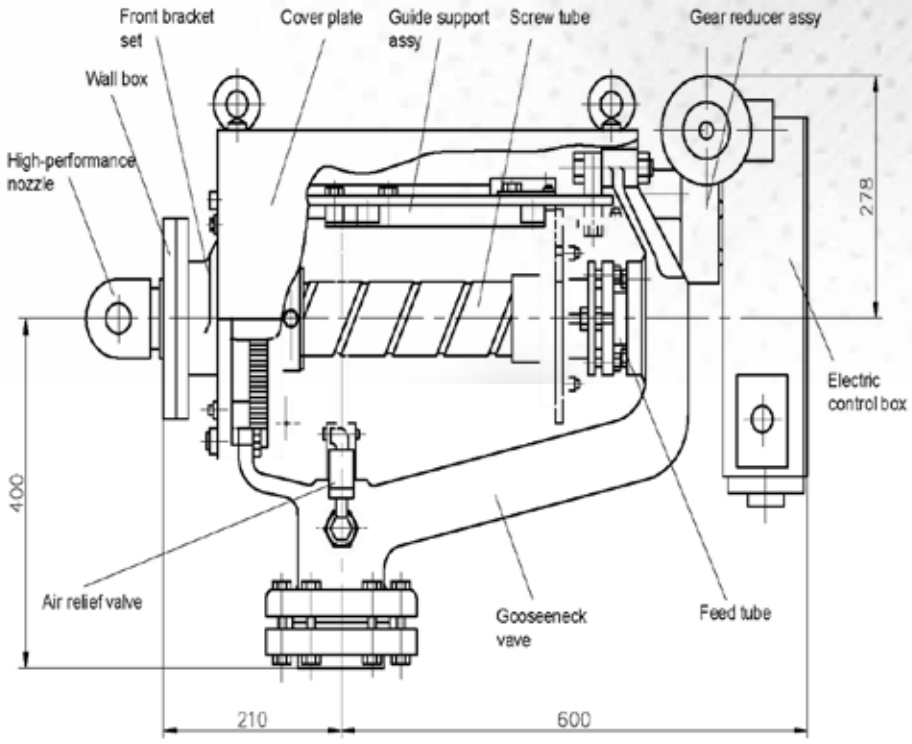


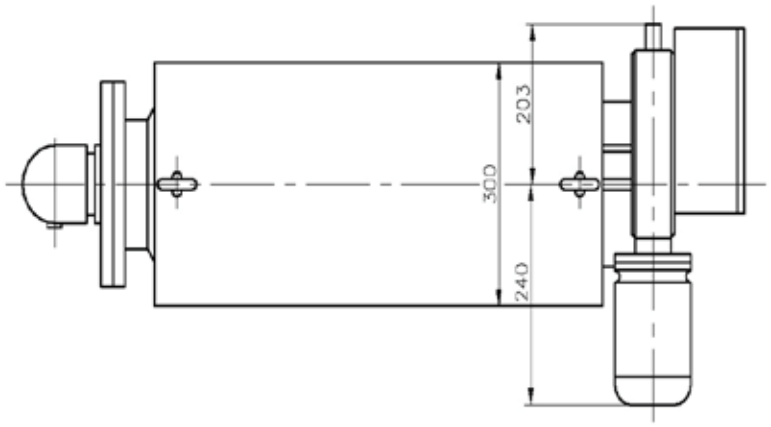


Furnace wall connecting pipe



Furnace wall connecting pipe
(Very thick furnace wall)





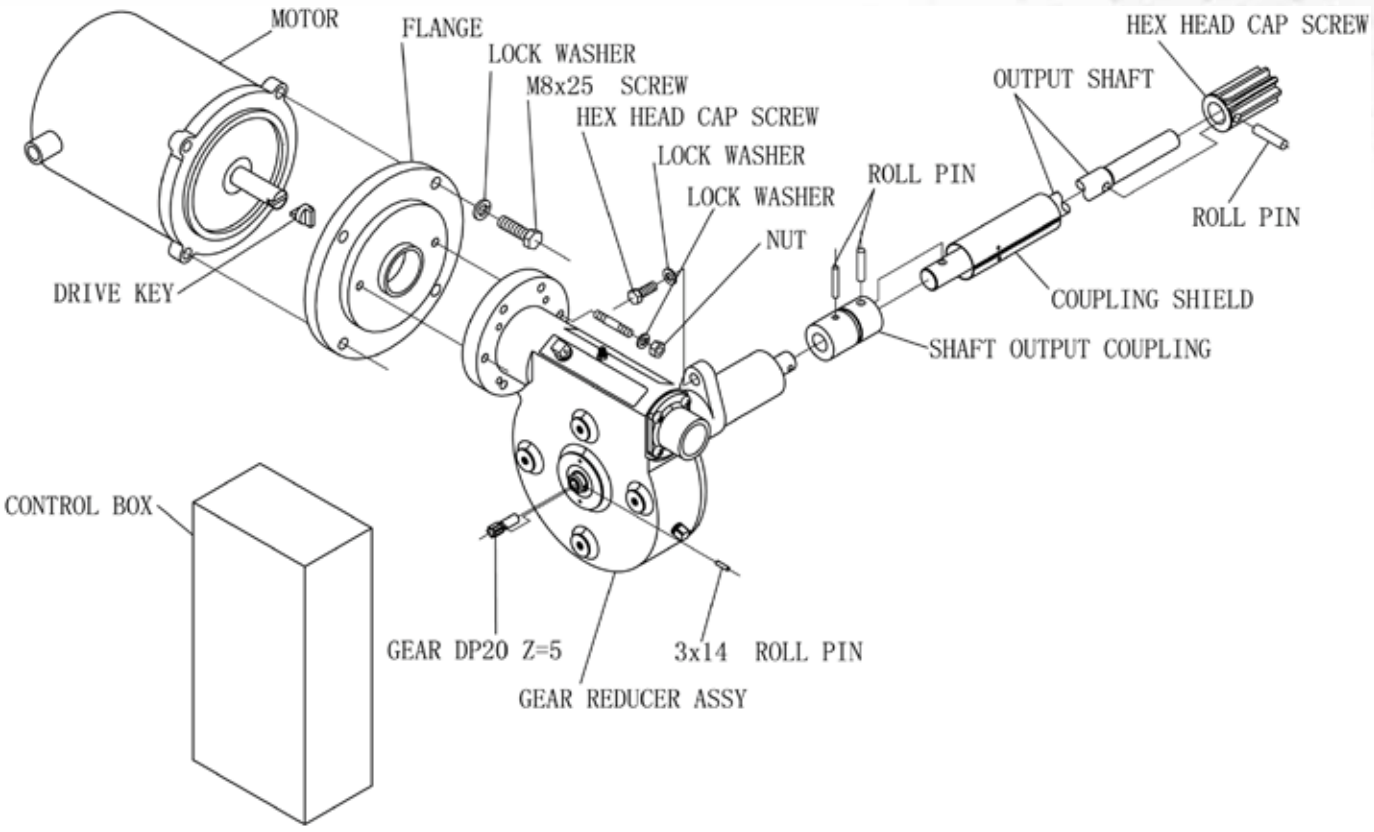
FEED TUBE

Stainless steel pipe with highly polished surface. One end is connected to the valve for conveying the blowing medium to the blowing gun.

REDUCER TRANSMISSION SYSTEM

This system consists of motor, worm gear box (reduction rate: 1:60), drive gear, drive pins and screw tube. The rotary and linear movements of the sootblower are accomplished alternately through two drive pins and the screw tube. The drive pins fixed at the end of the main drive gear by positioning plugs are made of a hard alloy with high abrasive resistance which can minimize the possibility of jamming and can be replaced easily.

DRIVE UNIT ELECTRIC MODEL O



A precut cam located on the back end of screw tube will move with the screw tube and actuate the trigger to open or close the blowing medium valve. The rotary or linear movement of sootblower can be achieved by rotating the sqaure handle on the worm with hand, but the speed is very slow. During adjusting or commissioning of the limit switches, high speed can be achieved by taking off the coupling pins and rotating the drive pinion directly.

MOUNTING PLATE & GUIDE BAR SYSTEM

Mounting plate is located on the top of the sootblower on which the guide bar and spring-return front/rear pawls are installed to control the cam.

BLOWING GUN AND NOZZLE

Blowing gun also called screw tube with screw on the outer surface is not only used for blowing, but also an important transmission part. The retractable movement is accomplished through the screw grooves on the screw tube.
A packing chamber is installed at the back end of screw tube for sealing between the feed tube and the screw tube. The screw tube is connected to the nozzle head at the front end with inner surface screw thread. Nozzle head is a standard part with a nozzle of 25.4mm size and back elevation 3” and can be screwed into the blowing gun through the screw thread at the rear. The length can be adjusted according to the thickness of the furnace wall.

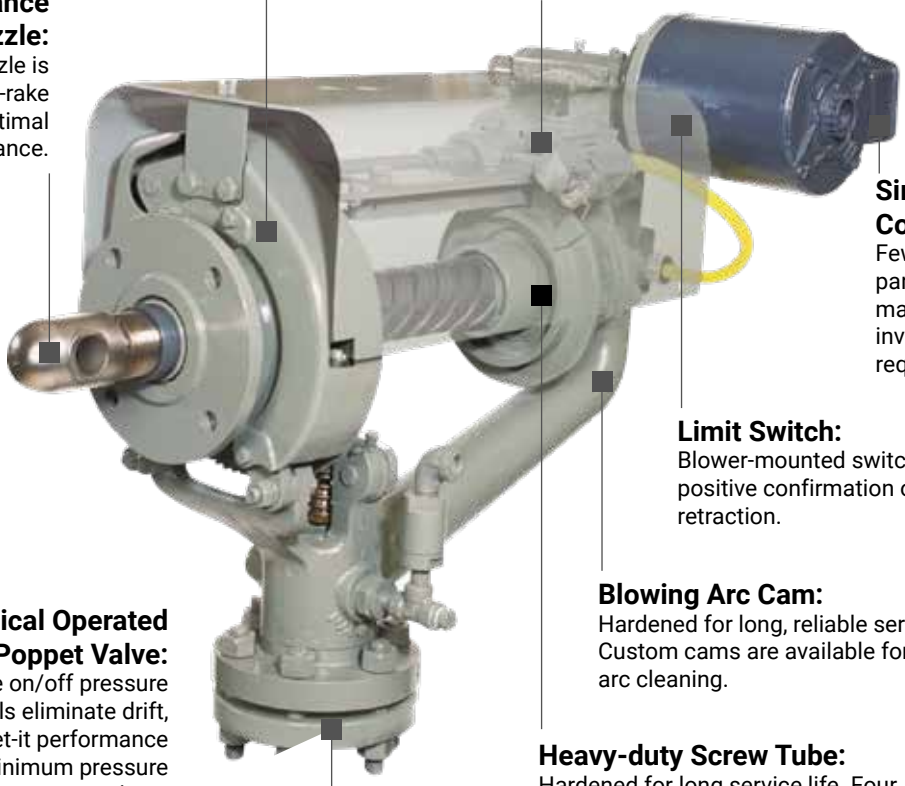
WALLBOX

Wallbox is a kind of sealing connection box, not only connected to the boiler, but also acts as a supporting point to fix the blower to the furnace wall.
A negative pressure wallbox only consists of a connection flange and a sealing ring. Sealing air is not required. The negative pressure draught inside the furnace chamber will draw air in through the front blower bracket to seal the connection point and keep the blower from corrosive gas.
A ring with aspiring holes is provided for a plus pressure wallbox. High pressure draught air will be introduced through the holes to seal the annular space between the screw tube and the sealing ring. Also plus pressure wallbox has another function: when it is necessary to remove the blower from the wallbox while the plus pressure boiler is operating, the connected compressed air will be admitted through the holes to form an air veil to seal the exposed opening until it can be covered by a cover plate.

ELECTRIC CONTROL SYSTEM

Electric control system is located at the end of sootblower. Limit switches are inside the control box and controlled by the gear driven by the worm shaft. The blowing arc and number of revolutions can be adjusted by changing the location of the touch pins on the main drive gear.

Before shipment, the number is preset to one revolution. There are two kinds of control boxes for choices due to different control demands, one large size with limit switches, buttons and writing pins and the other small size with AC contractor and air-break switch.



Gear Cover:
Two-piece, cast aluminium alloy cast cover is easily removed for maintenance.

Removable Top Cover:
Durable, bent steel cover protects personnel from rotating parts while shielding screw tube against objectionable accumulation of debris. Two wing nuts allow for easy removal.

High-performance Nozzle:
Single, Venturi nozzle is set at a slight, back-rake angle for optimal cleaning performance.

Single-motor Construction:
Fewer operating parts, minimizing maintenance and inventory requirements.

Limit Switch:
Blower-mounted switch provides positive confirmation of nozzle retraction.

Blowing Arc Cam:
Hardened for long, reliable service life. Custom cams are available for partial arc cleaning.

Mechanical Operated Poppet Valve:
Seperate on/off pressure controls eliminate drift, set-it-and-forget-it performance for design flow, minimum pressure drop and reliable pressure settings.

Heavy-duty Screw Tube:
Hardened for long service life. Four drive pins provide even force distribution on the screw tube for reliable extension and retraction of the nozzle.

INDUSTRIAL BOILERS
AMERICA

A brochure is used as a medium to provide general information on products we sell.

United States
2415 East Camelback Road,
Ste. 700, Phoenix,
Arizona 85016
P: (888) 405-1143
F: (800) 632-1533

South America
Edifício Candelária Corporate,
Rua Candelária, 65,
#1600, Rio de Janeiro
Brazil
+552139587260

Africa
Block B & Block C
Metropolitan Park,
8 Hillside Road,
Suite 1000 Parktown,
Johannesburg, 2196
South Africa
+27105008604

International Sales Office
Eurasia & Oceania
12 Abba Hillel Street,
Suite 1600
52136 Ramat-Gan,
Tel-Aviv Israel
Coming Soon

International Sales Office
North, South, & Central America
801 Brickell Avenue,
Suite 900
Miami, Florida, 33131
United States
+1.786.422.5225

info@industrialboilersamerica.com
sales@industrialboilersamerica.com