

AIROCHEM

Industrial Fans & Systems


VENTURY
wet
SCRUBBER

www.airochem.co.in

A Venturi scrubber is designed to effectively use the energy from the inlet gas stream to atomize the liquid being used to scrub the gas stream. This type of technology is a part of the group of air pollution controls collectively referred to as wet scrubbers. Venturi scrubbers are used to remove very fine dust and mist, and can also remove gases. They rely on high velocity airflow in the scrubber to atomise water and remove particles down into the submicron range.

Venturi scrubbers can have the highest particle collection efficiencies (especially for very small particles) of any wet scrubbing system.

Venturi scrubbers have been designed to collect particles at very high collection efficiencies, sometimes exceeding 99%. The ability of venturies to handle large inlet volumes at high temperatures makes them very attractive to many industries; consequently, they are used to reduce particulate emissions in a number of industrial applications.

APPLICATION

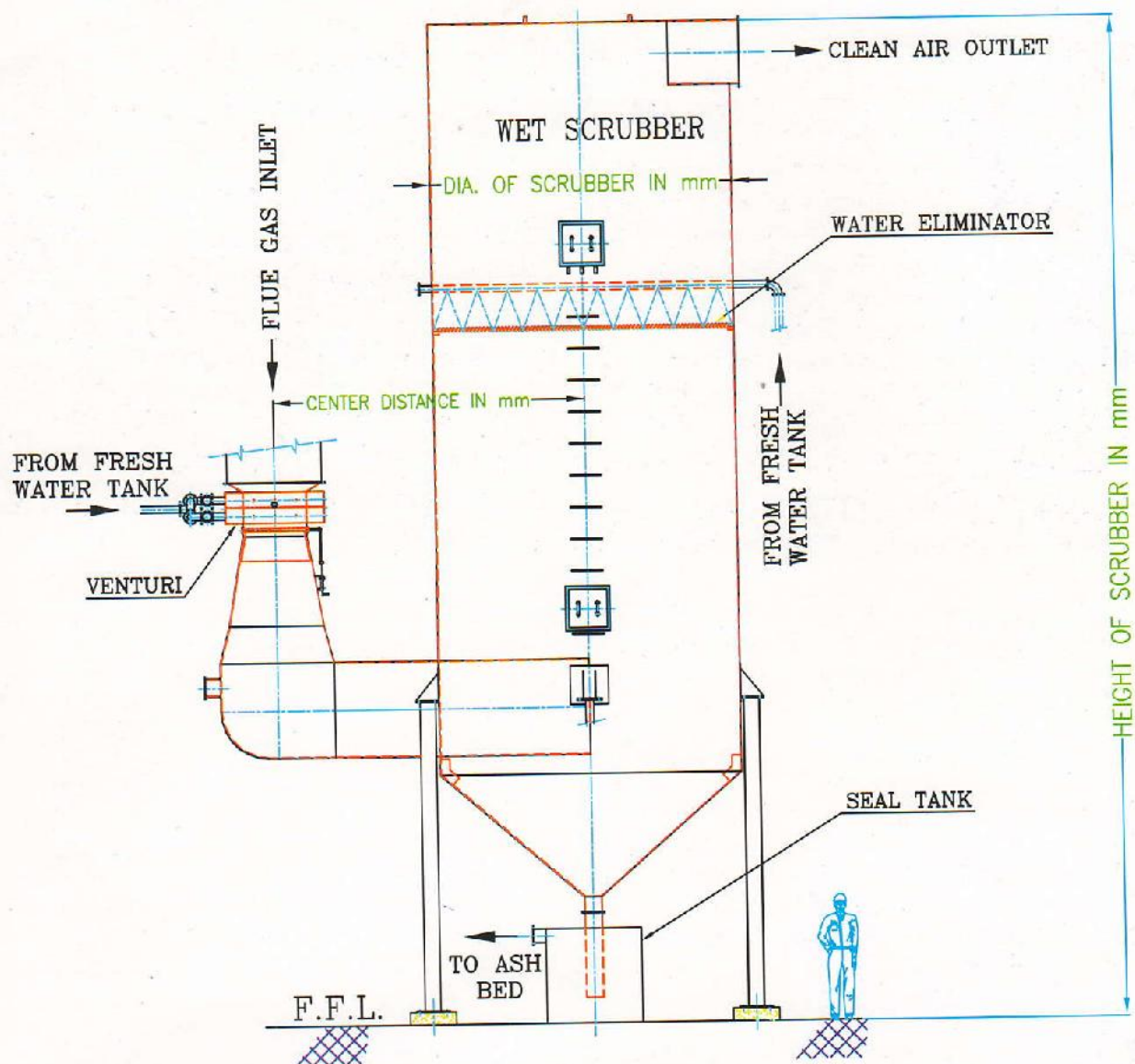
AIROCHEM Venturi Scrubbers have proven performance records for dust control in the Sugar industry. It can also be used in foundries, chemical plants, pulp and paper, food and food processing, smelting, aluminium processing. In general, the Wet Scrubbers are effective for removal of submicron sized particulates (both solid and liquid), heavy particulate loads that would clog other devices, and removal of gummy, tacky or scaling materials.

OPERATING PRINCIPLE

AIROCHEM ventury scrubbers are designed for low loss and high efficiency. The throat velocity is optimized for 60 mmWG head loss and water to air ratio is also optimized. Water is let into throat at minimum 20 meters head loss to create very high velocity, associated with fine breaking of water particles, which coagulate with fine dust.

The flue gas and water mixture is then sent to scrubber vessel for settling of dust and eliminating moisture. The bottom entry is cyclonic and that action settles dust in seal tank below the scrubber. Clean flue gases travel to ID fan and then further to chimney.

The slurry is sent to sludge beds for filtering and clean water is sent to clean water tank for re-circulation by pumping. All the pumps have stand-by units. The low velocity in separation vessel, coupled with sufficient height of vessel, does not allow entrainment of dust/mud into gases. The accumulation of dust/mud into ID fan blades, troubles normal operation of ID Fan and hence the boiler.



Sr. No.	1	2	3	4	5	6	7	8	9	10
MODEL	WS-25	WS-30	WS-35	WS-40	WS-45	WS-50	WS-55	WS-60	WS-65	WS-75
VOLUMETRIC CAPACITY IN m ³ /Hr.	90000	108000	126000	144000	162000	180000	198000	216000	234000	270000

FEATURES

Principal features of the AIROCHEM MAKE Venturi Wet Scrubber are :

- The low velocity in separation vessel, coupled with sufficient height of vessel, does not allow entrainment of dust/mud into gases, which normally causes to settle into ID fan blading, which troubles normal operation of ID Fan, and hence the boiler.
- Variable throat ventury allows variation in throat velocities, which enables arriving at best efficiency operations at site, with minimal setting time during commissioning. Proper sizing and selection of pressure drop will result in efficiencies exceeding 99% for particles ranging in size down to 0.1 micron.
- The injection of water into the throat of ventury is with pressurized water, which breaks down water particles into minute water particulates, which enhances collection efficiency. This feature is available in our designs, whereas competition uses flooding water throat, which is least efficient.

LIST OF SCRUBBERS INSTALLED ACROSS INDIA

- | | |
|---|---|
| 1 | M/s. Ugar Sugar Works Ltd.,
Ugar Khurd. Dist: Belgaum, Karnataka. Two numbers, for 70TPH Boilers |
| 2 | Raitaar Co-op Sugar Mills Ltd.,
Tal: Bagalkot, Karnataka. Two numbers 40tPH boilers. |
| 3 | Bajaj Hindustan Ltd. Thanabhavan
Uttar Pradesh. Two numbers 90TPH Boilers |
| 4 | Bajaj Hindustan Ltd. Kinouni
Uttar Pradesh. Two numbers 90TPH Boilers |
| 5 | Bajaj Hindustan Ltd. Bijnor
Uttar Pradesh. Two numbers 90TPH Boilers |
| 6 | Vishnu Sugars Ltd.
Bihar. 1No. 70TPH boiler |
| 7 | Dr. Babasaheb Ambedkar SSK Ltd.
Arvindnagar, Keshegaon, Dist : Usmanabad. 1No. 32TPH, and 1No.45TPH boilers. |
| 8 | Bhimashankar SSK Ltd.
Near Manchar, Dist : Pune. 1No for two boilers (1No 40T and 1 No 30T) |

AIROCHEM SUPPORT

AIROCHEM backs up products and systems with worldwide customer support. Call us any time you need help.

PARTS

Because we know your equipment, AIROCHEM is your best resource for parts. We carry a full line of replacement parts, and deliver high wear items such as pumps, valves, fans, packing, vanes etc. in shortest possible time for immediate shipment.

SERVICES

AIROCHEM provides an array of services to help you select, install, operate and maximize your equipment investment. We also have the unique capability to update your system to meet today's changing operating conditions and performance requirements.

Services include:

- Complete systems evaluations
- Mechanical equipment review and evaluation
- Equipment refurbishing
- Equipment rebuilding
- Technical training
- Maintenance training

Whether you need spare parts, equipment service or complete system rebuilds, we are here to support your requirements.



Products Manufactured At AIROCHEM

- ✧ Induced & Forced Draft Fans for Boilers.
- ✧ Centrifugal Ventilation Fans.
- ✧ Centrifugal Blowers.
- ✧ Multistage Centrifugal Blowers.
- ✧ Axial Flow Fans.
- ✧ Multistage Axial Flow Fans.
- ✧ Industrial Mancoolers.
- ✧ High Efficiency Dry Cyclone & Multiclone Collectors.
- ✧ Louvered Cone Fly Ash Arresters (Low loss type).
- ✧ Pulse Air jet Bag Filters.
- ✧ Gas Scrubbers.
- ✧ Rotary Air Lock Valves.
- ✧ Diverter Valves.

PROJECTS EXECUTION ON TURNKEY BASIS AT AIROCHEM

- ✧ Dust Extraction Systems.
- ✧ Dry Fog dust Suppression Systems.
- ✧ Fume Control Systems.
- ✧ Process Air Heating & Cooling Systems.
- ✧ Pneumatic Conveying Systems.
- ✧ Comfort Ventilation Systems.
- ✧ Room Pressurization Systems.
- ✧ Air Washer Installations.
- ✧ Fly Ash Collection Systems.
- ✧ Sugar Grader Dust Collection Systems.
- ✧ Drying systems for food & chemical Products.
- ✧ Silencers and Acoustic Enclosures.