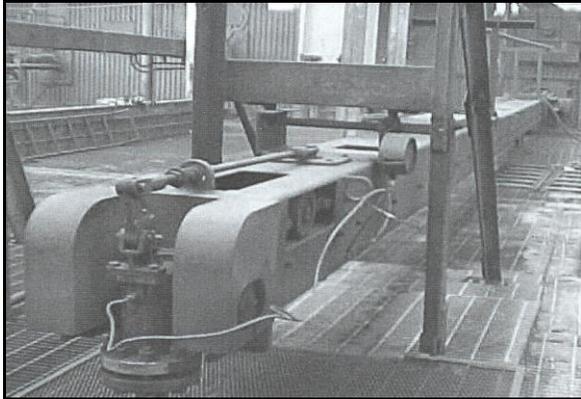


MAINTENANCE-FREE VENTURI UNITS PROVIDE CYTEC SOOT BLOWERS STEADY FLOW OF DRY STEAM

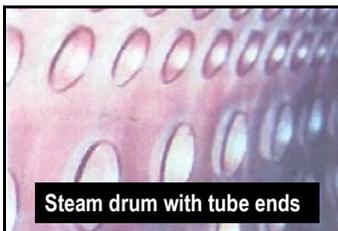


Soot blower in a coal-fired power plant

In 2005, CYTEC Industries installed socket-welded Enercon venturi units on a 780 psig, 670°F system. The objective was to ensure a continuous flow of dry steam to soot blowers. Engineering Coordinator Phil Kneiper says the Enercon units “have lived up to expectations, providing a steady flow of dry steam and requiring no maintenance.”

Steam Boiler Soot Blower

Soot blowers use steam to remove soot from furnaces and tubes, a troublesome condition for boilers using heavy fuel oil which, despite being heated and filtered before combustion, still has impurities. The hot combustion gases provide the heat to convert boiler water to steam. A by-product of this combustion is a soot deposit on the heating surfaces.



Steam drum with tube ends

The insulating property of soot deposits wastes heat, lowers boiler efficiency and creates a fire hazard. Enercon units installed ahead of each soot blower port are providing major manufacturers with a

steady flow of dry, hot steam that prevents condensate from entering the soot blower and minimizes boiler corrosion caused by acidic condensate.

Soot fires produce hotspots on the tubes which can reach temperatures high enough to weaken tube materials and compromise boiler integrity

Soot blown from the heat transfer surfaces is carried, with the hot gases, out through the funnel. Soot blowers can be manual or motorized. The motor-driven type can usually be operated manually if the motor fails.

Soot Blower Operation

1. Steam is channeled to the soot blower.
2. Operator opens a drain valve to remove water and make sure the steam is dry.
3. When steam is ‘dry’ the valve is shut off and the soot blower activated. Soot blowers are constructed so as they rotate steam ports are uncovered to admit steam.
4. Steam is ejected through small holes along the length of the soot blower tube. As the tube rotates, the direction of the steam jet adjusts accordingly. After a complete rotation, the soot blower should be free of soot (depending on the thickness of the deposit and the speed at which the blower is rotated).
5. When soot blowing operation is completed, the steam supply is turned off.

Enercon has replaced all mechanical traps in more than 450 facilities since 1989, including five plants for Georgia-Pacific, four for Boise Cascade, eight for Hampton Affiliates and multiplant conversions for other leading U.S and Canadian manufacturers. In addition, Enercon has completed seven mechanical trap replacement projects for one of the world’s largest petrochemical companies, including replacing all 350 mechanical traps in its power house.

A key part of a number of Enercon projects in the petrochemical and paper industries involved replacing soot blower traps with Enercon venturi units.



ENERCON

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