



turbosonic

Clean Air for Industry

TurboSorb Semi-Dry Scrubber





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TURBOSORB SEMI-DRY SCRUBBER

The TurboSorb Semi-dry Scrubber removes acid gases such as SO_2 , SO_3 , HF and HCl, as well as ammonia compounds from industrial gas streams.

HOW TURBOSORB WORKS

TurboSorb sprays finely atomized semi-dry alkalis – such as calcium, potassium, or sodium-based slurries – into the gas stream. Contaminants are absorbed into the droplets.

The droplets quickly evaporate leaving the contaminants trapped in dry particles for collection by a downstream baghouse (fabric filter) or electrostatic precipitator (ESP).

Dry Operation

The amount of liquid in the slurry is never enough to saturate the gas stream, preventing downstream wetting and therefore eliminating solids deposit on the walls.

Greater than 90% Removal Efficiency

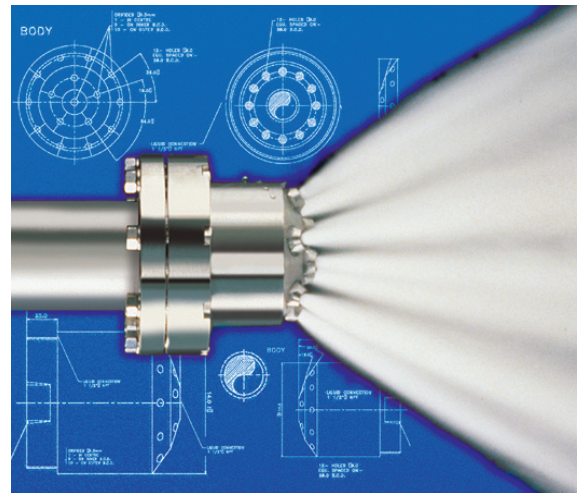
TurboSorb is capable of simultaneously removing SO_2 and HCl with high efficiencies at 1.3 to 2.5 times stoichiometric. Particulate in the gas stream is conditioned for optimum removal at the same time.

Opacity and Secondary Plume Abatement

TurboSorb removes ammonia compounds, reducing or eliminating secondary (detached) plume.

By conditioning the gas stream and altering particulate resistivity and moisture, TurboSorb enhances the ability of a downstream ESP to reduce opacity. Since the gas is not saturated, the stack is dry and there is less steam plume.

TURBOTAK ATOMIZING NOZZLES: SPRAY SLURRIES WITHOUT PLUGGING



Air-Atomized Nozzles

Turbotak Atomizing Nozzles use compressed air or steam to atomize liquids, including high-solids slurries.

High-Capacity Nozzles

Large, multiple-orifice TurboTak Atomizing Nozzles reduce the number of nozzles and lances required.

Often one TurboTak nozzle can replace several competitive nozzles.

Nozzle Orifice Inserts

Inserts in each nozzle orifice can be replaced, extending the life of the nozzle and lowering maintenance costs and time.

Materials of Construction

Often simple, hardened steel has sufficient wear resistance. Orifice inserts can be made from other materials such as ceramic, for extended wear resistance.

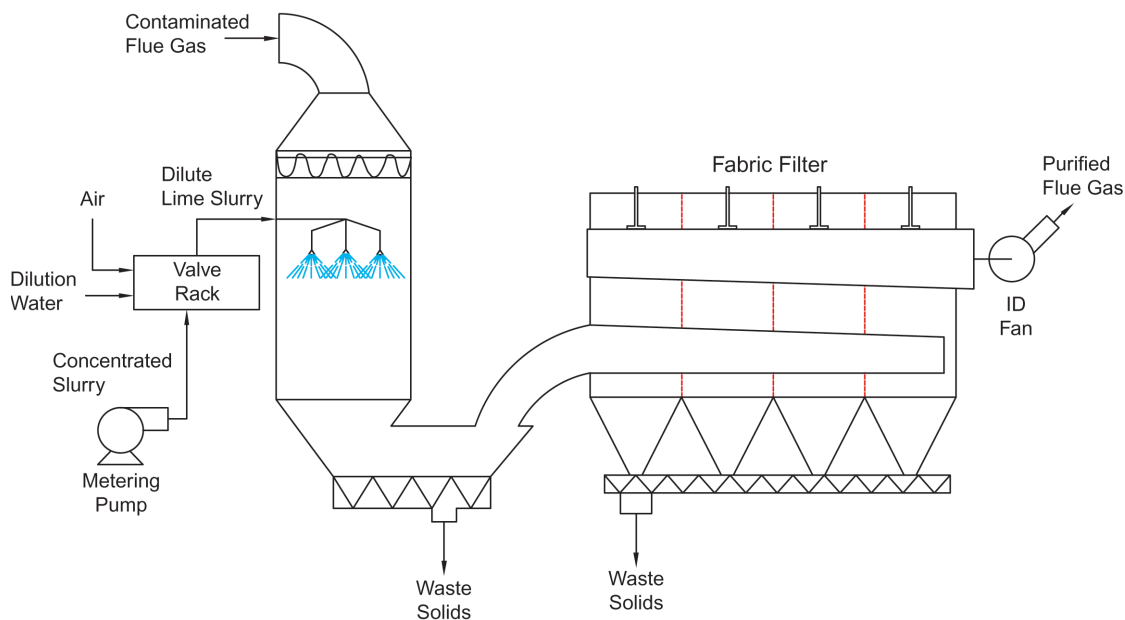


New Systems and Upgrades to Existing Systems Available

TurboSonic can supply components or complete systems -Everything you need including nozzles, lances, pumps, controls and towers. Control systems range from manual to advanced automatic controls, including PLCs that interface with plant computer systems.

Existing equipment can be upgraded to improve performance, save energy, and reduce maintenance. A TurboSonic supplied upgrade can achieve lower outlet operating temperatures with no downstream wetting.

TYPICAL TURBOSORB LAYOUT

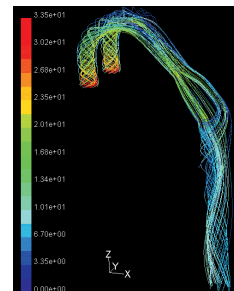


ADDITIONAL FEATURES

- Low baghouse DP due to dry operation
- Effective temperature control can reduce filter bag replacement and plugging
- 100% turndown ratio of the nozzle capacity permits precise temperature control over the complete range of operation
- No water carryover, sludge buildup or wastewater disposal
- Energy saving air control system provides economical and automatic droplet size adjustment
- Maximizes particulate removal by moisture conditioning ahead of ESP
- Variable drop size control and turndown ratio allows the operator to fine tune scrubbing performance – even on-line

Gas Flow Modeling

Existing installations may have gas flow distribution irregularities that impede temperature control and reduce particulate conditioning. This can result in problems, such as material deposition.



TurboSonic offers sophisticated computer and physical scale modeling to confirm existing flow patterns and determine corrective measures to optimize process efficiencies.

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ABOUT TURBOSONIC

For over forty years, Industry has relied on TurboSonic for cost effective air pollution control solutions.

Attention to quality ensures reliable performance for your investment. From project management to spare parts and aftermarket service, you can depend on TurboSonic.

APPLICATIONS

- Steel Mills: EAF/BOF off-gas cooling, castor sprays, humidification
- Cement Plants: kiln/calcliner off-gas cooling, in-kiln sprays, clinker off-gas cooling, humidification
- Glass Plants: furnace off-gas cooling
- Waste Incinerators: off-gas cooling
- Hospital Waste Incinerators: off-gas cooling
- Non-Ferrous Metal Convertors and Furnaces: off-gas cooling
- Chemical Plants: steam desuperheating and process gas cooling
- Utility Boilers and Turbines: off-gas cooling, humidification



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