

TRAY SCRUBBERS

- ◆ For High Efficiency SO₂ Removal
- ◆ Gaseous Absorption
- ◆ Odor Reduction
- ◆ Particulate Removal

AirPol TRAY SCRUBBERS PROVIDE HIGH EFFICIENCY AND ECONOMY

AirPol's expertise in gas cleaning has produced hundreds of problem-solving designs and successful installations. These high standards have enabled us to offer a tray scrubber of improved design that results in high efficiency performance and low energy requirements. The tray scrubbers are used for SO₂ removal, gas absorption, odor control and particulate collection. Four types of trays are available to suit a wide range of process conditions.

Impingement Tray

A dual layer tray provides intense gas-liquid mixing. It cools and absorbs gases and removes fine particulate. The bottom layer divides the gas stream into a myriad of small bubbles while the upper layer provides a target area for impingement and additional breakup of air bubbles above each orifice.

Valve Tray

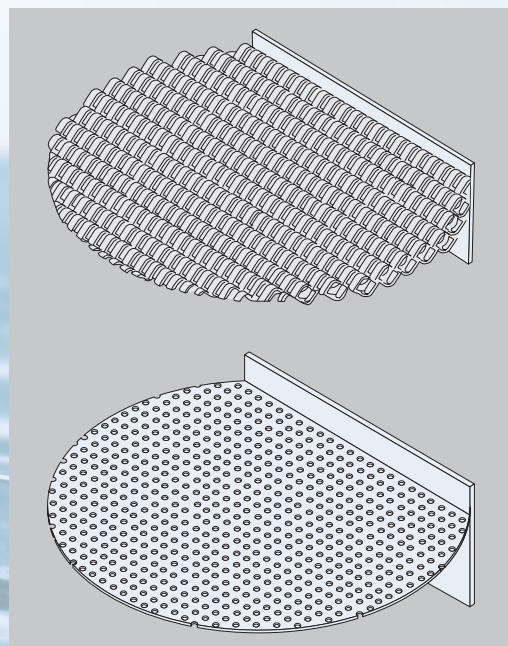
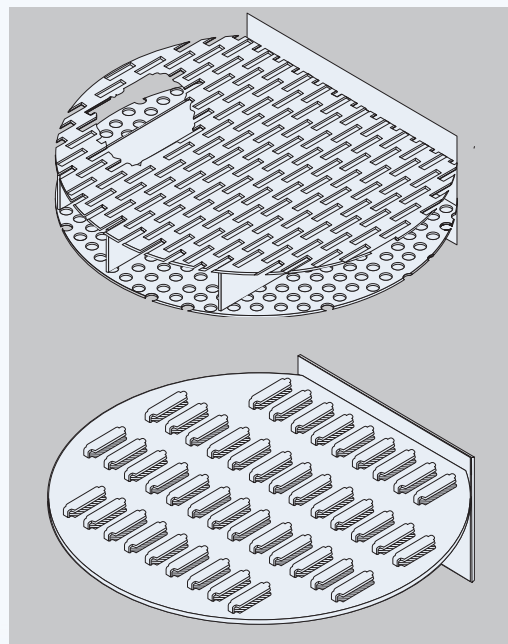
An adjustable impingement tray that maintains constant efficiency and pressure drop via a movable self-adjusting cap for varying gas volumes. The tray design also provides effective cooling capabilities and gaseous absorption.

Tubular Slot Tray

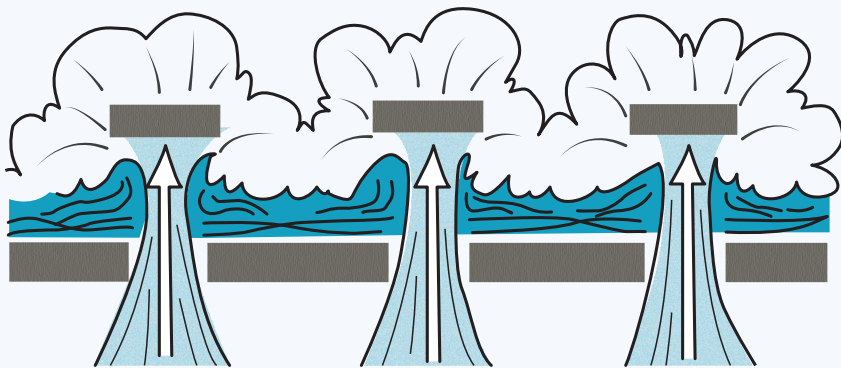
The tubular slot tray has been designed especially for gases with high particulate loadings. It provides excellent cooling and gas absorption and resists plugging from heavy concentration of particulate and fibrous material.

Sieve Tray

A multi-orifice plate in which a gas stream is sub-divided into numerous jets as it penetrates a layer of water on the tray. It is used primarily to cool a saturated gas stream, reduce gas volume, and condense steam plume.



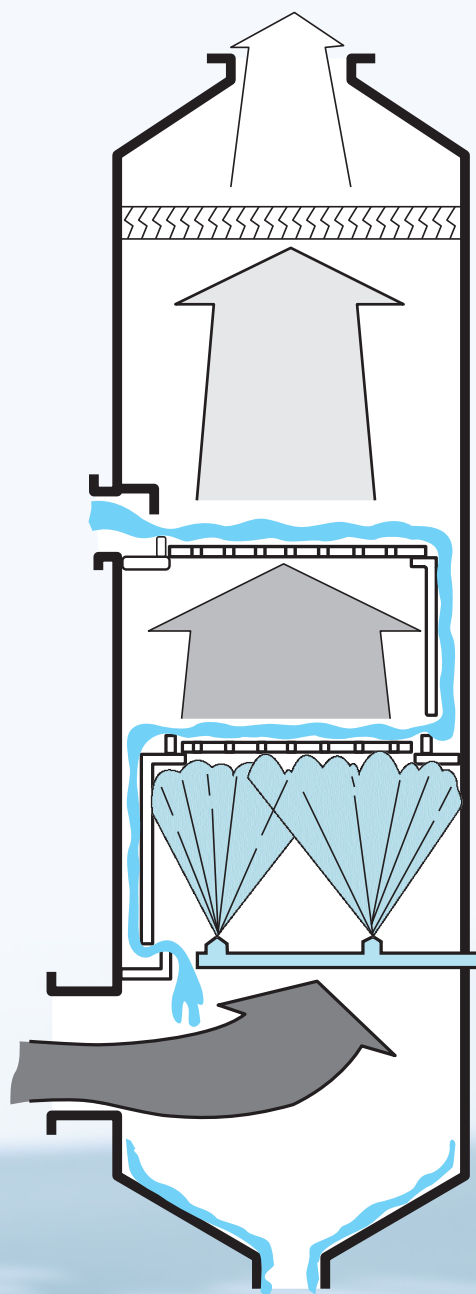
ECONOMICAL OPERATION



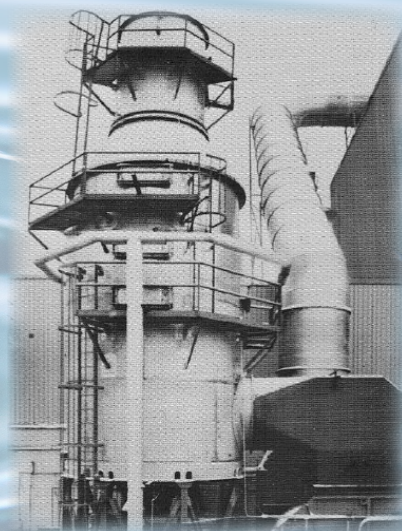
Tray Scrubber Technology

In a typical application, gas enters the bottom of the scrubber and flows upward through a bank of sprays, where it is conditioned and cooled and large particulate removed. This results in maintaining cleanliness of the bottom tray. The gas proceeds through the orifices of the tray, subdividing into many jets with each jet aspirating liquid from the scrubber liquid blanket, impinging upon the target baffle above the orifice. The violent and turbulent action of the gas and liquid provides the intimate gas-liquid contact for maximum particulate collection, gas absorption and heat transfer. After leaving the trays, the gas passes through a chevron type mist eliminator, for separation of entrained liquid and discharges to the atmosphere.

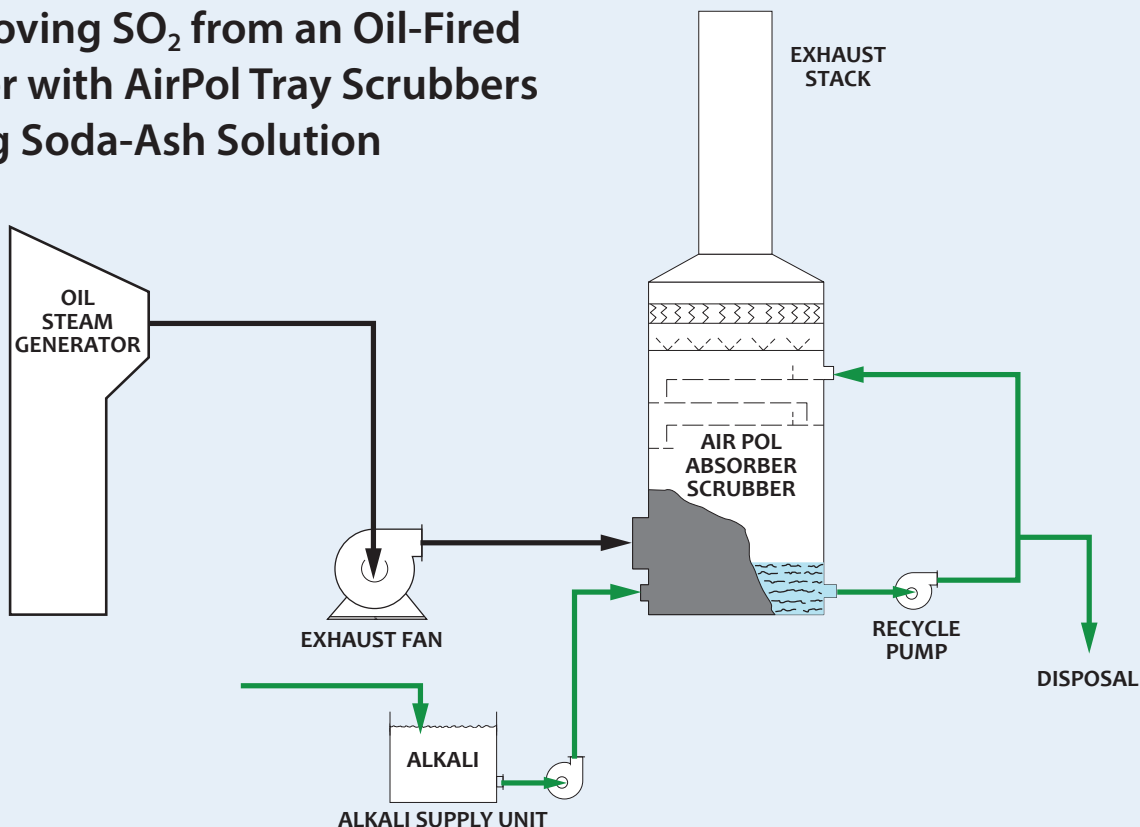
All AirPol tray scrubbers operate in a similar manner but each type has its own gas and liquid flow technique. Under certain conditions, a scrubber will utilize two or more of the same or different types of trays.



A 14' diameter tray scrubber, one of four units AirPol installed for odor removal of phenol formaldehyde vapors at a hardboard manufacturing plant. Gas volume is 100,000 cfm.



Removing SO₂ from an Oil-Fired Boiler with AirPol Tray Scrubbers using Soda-Ash Solution



Applications

AirPol tray scrubbers are ideal for use in many industries, such as petroleum, pulp and paper, chemical, electrical utility, food processing, metal processing, textiles, rubber, plastics and mining. They are used for SO₂ removal, gas absorption, odor reduction and particulate removal in a wide range of processing operations and equipment:

- ◆ **Municipal Sludge**
- ◆ **Industrial Incinerators**
- ◆ **Kilns and Ovens**
- ◆ **Rotary Dryers**
- ◆ **Fluidized Beds**
- ◆ **Flash and Multiple Hearth Roasters**
- ◆ **Flue Gas Desulfurization (SO₂)**
- ◆ **Spent Liquor Recovery**
- ◆ **Boilers**
- ◆ **Reaction Vessels**
- ◆ **Spray Dryers**
- ◆ **Acid and Fertilizer Operations**
- ◆ **Oil and Coal-Fired Power Boilers**
- ◆ **Steam Generation**

Other Products: Venturi Scrubbers ◆ Cyclonic Scrubbers ◆ Packed Towers ◆ Wet Electrostatic Precipitators

Services: Engineering ◆ Design ◆ Consulting ◆ Pilot Testing ◆ Turnkey Systems



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