

INDUSCO

ENVIRONMENTAL

ODOR CONTROL SCRUBBERS



Air Pollution Control
Since 1982

Principle of Odor Scrubbers

The principle of a scrubber is to remove impurities out of the gas stream typically by absorption. For example, gas generated at a wastewater treatment plant will require the removal of Ammonia or Sulfide Compounds. Scrubbers are designed based on the particular contaminants required to be removed. The contaminated gas flows up while recirculating liquid sprays downward into the packed bed. The gases are absorbed by the solubility levels or by chemical reaction. The airborne vapor is then released into the atmosphere or to a further post treatment process.



The **Indusco Environmental Services, Inc.** Scrubber provides one of the most economical and effective means of removing gases, odors and vapor fumes from a wide variety of applications. Each system is individually designed and engineered to meet site specific requirements. A typical scrubber includes the vessel with internals, fan, chemical and recirculation pumps. Indusco can integrate a complete package to include all duct, piping, instruments, fan filter enclosure, access ladder and platform, instruments and controls. Units typically range from 12" to 14' diameter.

ODOROUS COMPOUNDS CONTROLLED

H₂S
AMINES
ALCOHOLS

ALDEHYDES
ACEITC ACIDS
CARBOXYLIC ACIDS

NH₃
KETONES
PHENOLS





Vessel:

Indusco Environmental Scrubber Vessels are designed and fabricated of all type materials; most common are fiberglass, aluminum and stainless steel. All fiberglass vessels are supplied per PS15-69, ASTM 3299 and RPT-1 industry standards. Most units are one piece construction with no body flanges for ease of installation. Fiberglass units have light blocking UV inhibitors that are applied to prevent UV penetration that can aid in potential biological fouling. Each vessel is designed with site specific seismic and wind consideration.

Packing Media:

Indusco Environmental provides Packing Media to match the specific application of the service intended. Most media is random dump type polypropylene that has high mass transfer efficiency, excellent chemical resistance, and low potential for biological or chemical scale fouling.



Packing Support Plates:

Indusco Environmental utilizes Packing Supports of Grating and Gas Injection Plates for even air distribution and maximum water flow drainage. The design provides optimal gas to liquid transfer with the lowest drop in pressure, increasing time between packing replacement or cleaning up to 35%. Materials include stainless steel and fiberglass.

Liquid Distribution:

Indusco Environmental provides a high quality engineered complete designed liquid distribution system that assures proper liquid flow and the best available wetting of the packing media. The quantity, size and configuration along with materials of construction are important for proper design and durability. Materials included; PVC, FRP, CPVC, stainless steel and aluminum.



Demisters / Liquid Entrainment Separators:

Indusco Environmental demisters are supplied as required per the application and requirement of the service intended. Units are supplied as mesh pad assemblies or ridged chevron blade type. Both types are very effective in removal of entrained water droplets.

Tower Cleaning / Wash Down:

Indusco Environmental offers options for effective ways of cleaning the scrubber vessel, header, packing and demister. These normally include use of piped wash down header connections and spray nozzles. These are designed to use recycled cleaning solutions (usually, HCL or sodium hypochlorite) to flush down the vessel and allow cleaning of all internals.



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**SCRUBBERS
DEGASIFIERS
CARBON ABSORBERS
FANS
TANKS
PUMPS
METER PUMPS
STACKS
DUCTWORK
DAMPERS
ENCLOSURES
CONTROL PANELS
INSTRUMENTATION AND CONTROLS**

**DESIGN
FABRICATION
SYSTEM INTERGRATION
COMPLETE TURN KEY SYSTEMS**

**MUNICIPAL
INDUSTRIAL**



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AIR POLLUTION CONTROL / CHEMICAL PROCESS / WATER & WASTEWATER TREATMENT