

Monroe Scrubber Solves Pollution and Odor Problems from a Glass Resin Reactor at a Synthetic Fiber Manufacturing Plant

CHALLENGE

The plant was emitting about 6.0 lbs./hr. of toxic fumes from their resin reactor at a temperature of 200°F. The emitted gases to be cleaned were from hazardous, gaseous pollutants such as phenol and formaldehyde, as well as dust particulate. The collection efficiency required was more than 90%.

SOLUTION

As the first component of the total emission and odor control system, Monroe provided a fixed throat, ejector type venturi scrubber made of stainless steel. Initial scrubbing was done with an ammonia solution utilizing a high-pressure ejector venturi gas scrubber. The system operates under low static pressure of approximately 6 w.c., while utilizing a high pressure pump to provide controlled liquid atomization for efficient gas scrubbing.

The venturi scrubber is followed by a stainless steel packed tower with 4–5 feet of packing depth. Liquid to gas ratio is kept at 10 gallons/1,000 CFM for the best collection efficiency. The system includes complete instrumentation, FRP axial exhaust fan, interconnecting piping, and electronic controls.

RESULT

The system was successfully installed and the unit provided high efficiency scrubbing of the phenol and formaldehyde, as well as separation and removal of the dust particulate. The system enabled the plant to meet the required emission standards as well as provide odor control.

