

Fume Scrubbers and Ventilation Systems

Properly engineered and designed ventilation and fume scrubbing systems can prevent environmental releases, ensure regulatory compliance, and protect employee health and safety.

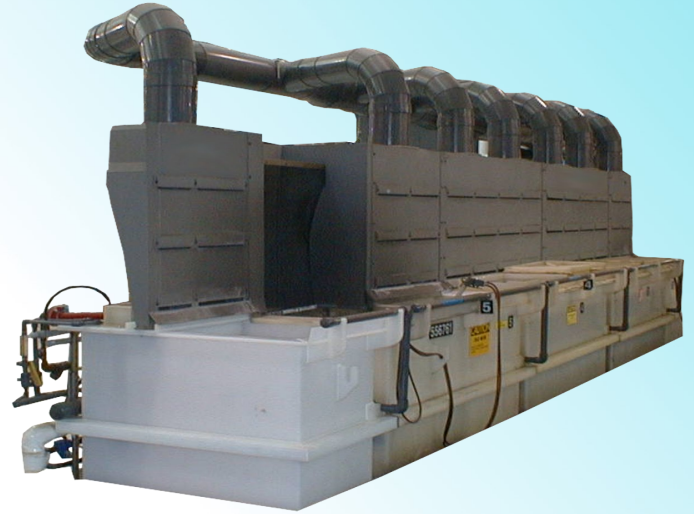
Mech-Chem provides the complete scope of services for fume ventilation and scrubbing systems including the following:

- Engineering & Design
- Fume Scrubber Fabrication
- Custom Hoods & Enclosures
- Complete Ventilation Systems
- Makeup Air Systems
- System Installation & Start-up
- System Upgrades & Repairs
- Airflow Measurements & Balancing
- Preventative Maintenance Programs

Mech-Chem brings 25 years of chemical process design experience and expertise to the design, fabrication, and installation of our ventilation and fume scrubber systems. Our company provides complete professional solutions that can control and treat our client's fume and exhaust problems.



***Dual Tower Fume Scrubber for
Handling Airborne Radioactive Particulates***



***10,000 CFM Push/Pull Ventilation System for
Hydrochloric Acid Stripping Operation***

Standards and Custom Built Scrubbers

Mech-Chem designs, fabricates, and installs many types of fume scrubbers that are used for removing fumes, mists, vapors, particulates, and odors from the exhaust streams. These fume scrubbers offer:

- Absorption and neutralization of acid fumes
- Absorption and neutralization of alkaline fumes
- Removal of solvents from exhaust streams
- Removal of particulates from exhaust streams
- Standard sizes: 2,500 to 50,000 CFM systems
- Fume scrubbers are designed and fabricated to meet the required chemical application
- Fume scrubbers are constructed using the appropriate materials to handle corrosive chemical environments

A packed bed with countercurrent flow of the scrubbing solution is the heart of the fume scrubber. Mech-Chem's fume scrubbers are designed to provide very efficient removal of acid, chemical, solvent and NO₂ fumes, mists, vapors, entrained liquids, particulates, and noxious corrosive gases from the exhaust air stream.

Fume Scrubbers Controls—Operator Interface

Mech-Chem designs and programs operator interface screens to allow equipment and set point parameters to be adjusted. Each individual system has a screen which functions as the monitoring and control point. These screens allow for viewing of equipment operation as well as display of the alarms and set points.

Three of the systems monitored and controlled are the ventilation, fume scrubbing, and air makeup systems. Several key points are controlled and alarms are programmed in the PLC to control and indicate if any of the equipment or operating criteria is not met, such as the following:

- Circulation Pumps Start/Stop Control
- Motor Overload
- Circulation Flow Rate
- Chemical Feed Pump
- pH of Reservoir
- pH Set Points
- Level in Scrubber Reservoir
- Blow Down
- Chemical Feed Drum Level
- Makeup Air System Flow
- Push Air System Flow
- Static Pressure of Scrubber
- Water Makeup
- Makeup Air and Scrubber Blower

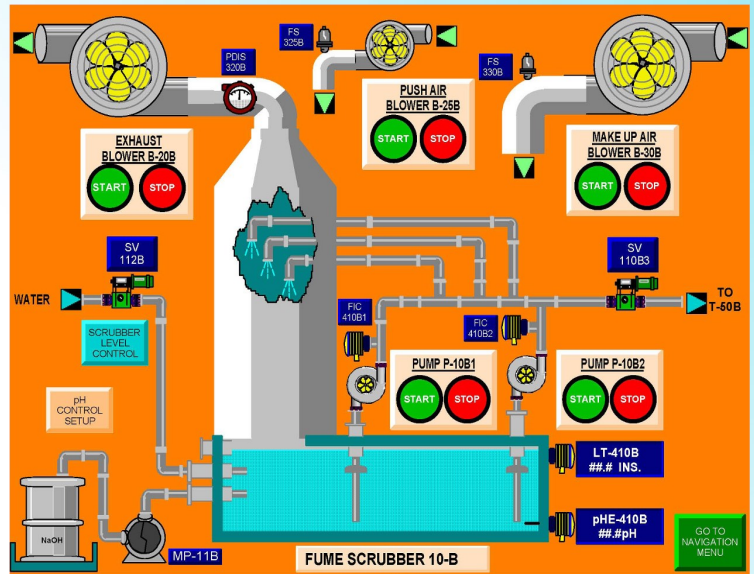
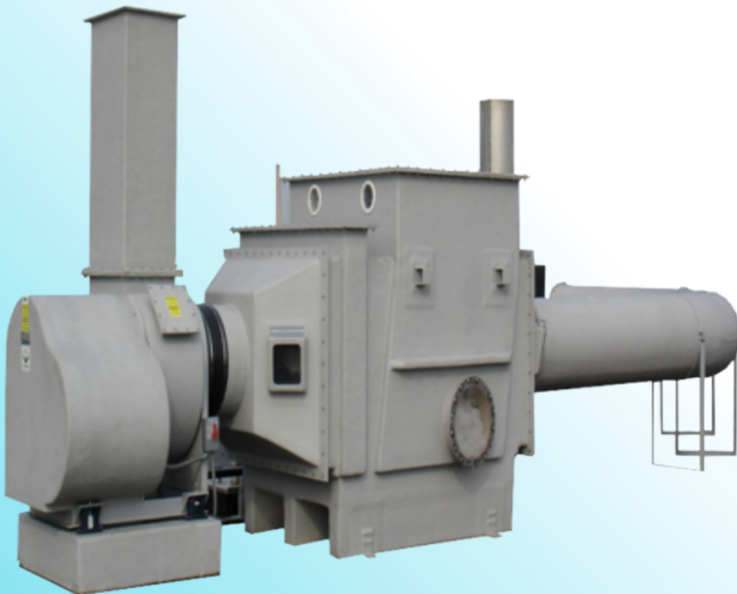


Figure B-10



*10,000 CMF Horizontal Fume Scrubber
with Blower Installed on Rooftop*



Mech-Chem
Associates, Inc.

Telephone: (508) 528-5990 Fax: (508) 528-8972

144 Main Street, P.O. Box 473 Norfolk, Ma 02056
E-mail: inquiry@mech-chem.com Visit: www.mech-chem.com