

# POLLUTION SOLUTIONS

VERTICAL COUNTER-CURRENT FLOW DRY IMPINGEMENT SEPERATOR



Reference No. 14683-00

## MAPCO PRODUCTS

- FUME SCRUBBERS
- ENFORCER III™ (CMP) MIST ELIMINATORS
- TERMINATOR™
- ULTRA-MACT™
- PREDATOR™
- FUME ARRESTOR™
- MISTMASTER™
- PVC DUCTWORK
- EXHAUST HOODS
- INSTALLATION
- SERVICE

## ENFORCER III Scrubber Provides Cost Effective Ventilation and Air Pollution Control for Battery Charging Room

### Background

Ventilation and scrubbing of fumes from battery formation operations (initial wet charging of new automotive batteries) has always presented a special challenge for the air quality-conscious – the entrained sulfuric mist tends to be of a very small micron size and difficult to remove; some degree of lead tends to be dissolved in the sulfuric acid, there is a significant presence of hydrogen gas which evolves during the charging operation; and ignition of hydrogen gas pockets is frequent in some facilities due to sparking from charging connections. Hydrogen ignitions have been known to start dangerous and costly fires on many occasions. These challenges have grown as increased production rates have sped the formation process from days to just hours, increasing the acid, lead and hydrogen emissions in correlation with faster formation. Finally, a ventilation design and manufacturing company has matched the technological advances in battery manufacture, with an improved ventilation and scrubbing design.

Mapco has developed, tested and proved-out a quantum leap in scrubbing design in large battery formation operations, by substituting a series of high-efficiency mesh pad mist eliminators for the conventional wet, packed bed scrubber. The mesh pad eliminators are more efficient, capturing high percentages of sulfuric mists into the sub-micron range and well beyond the capabilities of a wet scrubber. The Enforcer III multiple-stage eliminators provided by Mapco include automatic and self-contained washdown systems for keeping the mesh pads clean while generating extremely low effluent flows. Each of the (2) 50,000 CFM Enforcer III systems shown produce just 125 GPD of waste water. A conventional 50,000 CFM wet scrubber could produce as much as 11,000 GPD.

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