



Meets the proposed  
Cement and upcoming  
Utility MACT rules!

# AMESA - M

## Mercury Sorbent Trap System

Meets E.P.A. Performance Standard 12 B

Altech Environment U.S.A. is pleased to introduce the mercury trap version of our AMESA system. Already MCERTS and TUV certified for continuous dioxin and furan monitoring, the AMESA - M has been adapted for mercury monitoring.

### Applications

- Cement Kilns
- Power Plants
- Biomass
- Industrial Boilers
- Incinerators

### Features

- Fully Automated
- Volume Proportional Sampling
- Moisture Determination
- Long-Term Sampling
- Dry gas meter to determine sample volume
- Thermal mass flow meter to control mass flow independent of gas pressure and temperature



Control cabinet



The AMESA features a paired trap probe design for audit purposes and quality control. The design incorporates a built-in pitot tube to sample under volume proportional conditions.

## AMESA - M Sorbent Trap Monitoring System (STMS)

### System Description

The AMESA-M long-term sampling system is designed to meet the requirements of continuous mercury monitoring applications. This unique system is a development of the proven AMESA system originally designed to measure micro-pollutants (such as dioxins/furans) in flue gas streams.

The AMESA consists of a control cabinet and sample probe assembly. The heated sample probe is equipped with paired Hg-sorbent traps which extract a sample from the flue gas stream under volume proportional conditions. Gaseous mercury (elemental Hg and oxidized forms of Hg) is collected in the sorbent trap.

The traps are placed at the entrance of the sampling probe, which is mounted on the stack or duct.

A process control computer is located in the stack box which performs all measurement and control functions in the stack (i.e. flue gas velocity, static pressure, flue-gas temperature, etc.). The controller for the cartridge box and the control cabinet communicate by TCP/IP protocol.

After flowing through the stack box, the extracted sample gas passes through an umbilical to the control cabinet for precise volume determination. The gas passes through an electric gas cooler with a Jet Stream heat exchanger in which the gas is cooled down to 5°C. The moisture in the gas condenses and flows into the condensate tank, where the condensate volume is measured and the flue-gas moisture is determined.

After the gas cooler, the dried gas passes to a rugged single-tube dry volumetric gas meter. The control system converts the measured operating volume into standard volume.

The gas is then directed to a thermal mass-flow controller which determines and accurately controls the mass flow (kg/s) independent of gas pressure and temperature. It requires no maintenance under normal operating conditions with clean, dry gases.

The unit stores sampling data that is available to download on a USB flash drive. Data is stored for up to a four-week period. After each sample cycle, the cartridges are removed for analysis. The analysis is achieved with an onsite analyzer or a certified laboratory.

