

The image shows an industrial facility with several tall smokestacks emitting thick white smoke against a cloudy sky. In the foreground, on a dark blue surface, is the M324M Sorbent Trap Mercury Analyzer. It consists of a blue carrying case with its lid open, revealing internal components and a control panel. A blue sorbent trap is connected to the system via clear tubing. A laptop is also visible, connected to the analyzer. Two pens are lying on the surface next to the equipment.

M324M Sorbent Trap Mercury Analyzer

Direct Analysis of Mercury in
Stack Emissions using
Sorbent Traps



your partner for mercury measurement success



WHAT IS A SORBENT TRAP MERCURY MEASUREMENT SYSTEM

Mercury is present in coal and is released as the coal is burned. Presently some industries are regulated for mercury and many more will soon be regulated to report their mercury emissions, RATA the equipment that monitors their emissions, and control their emission. A Sorbent Trap System can be the Best choice as a Primary System for Compliance Monitoring or can be a great tool as a back-up system during CEMMs maintenance, downtime, and to verify the performance of the instrumental CEMM.

- A sampling probe is installed at the stack which diverts a fraction of the flue gas.
- A pair of sorbent traps are installed at the front of the probe.
- The flue gas is pulled through the sorbent traps which collect all of the mercury in the diverted gas.
- Each Sorbent Trap contains 2 or 3 sections. In a 2 section trap (most commonly used for RATA) the first section quantitatively captures Hg and the second section is used for the breakthrough calculation. A 3 section trap (most commonly used for compliance reporting) has a third section that has been spiked with a known amount of Hg.
- The traps are taken out of the probe after a certain amount of time.
- Each sorbent section is individually emptied out into a quartz ladle and placed into the analyzer for analysis.

STACK TESTERS

You will find that a Sorbent Trap System Including an Analyzer is a Useful and Profitable Tool

- Much Simpler to perform than Method-29 or "Ontario Hydro" Method.
- Results in Minutes.
- Quickly Categorize Source Levels On-Site.
- Only Collect the Number of Samples Needed (9 vs. 12 Runs). No need to collect extra runs to assure 9 good results.
- Finish RATA using Method Compliant Results Before Leaving the Site.
- Saves Money Compared to Other Methods or Off-Site Analysis.
- "One-Shot" Argument: Both Digestion and Thermal Methods are Destructive if Sample is Lost on Trap Disassembly. The Penalty for On-Site Thermal Analysis is Merely

OHIO LUMEX *your partner for mercury measurement success*

With a pedigree of 15 years in mercury instrumentation, hundreds of stack testers, plants, and laboratories have turned to our analyzers when required to measure the concentration of mercury. At Ohio Lumex Company, the development of analyzers and products for the detection of mercury is our top priority. Further, we look at ourselves as your partner and will help you every step of the way. With customer service and technical expertise like ours on your side, not even the most challenging and demanding mercury analysis will stand in your way.

OHIO LUMEX SORBENT TRAP MERCURY ANALYZER

If you are required to test mercury emissions, you need a Sorbent Trap Mercury Measurement System Including an [Ohio Lumex Sorbent Trap Mercury Analyzer](#).

For coal fired power plants or any emission source that is or will be required to measure their mercury emissions, a sorbent trap system can be the best choice as a primary system for compliance monitoring.

- Capital and Operating Costs a Fraction of CEMM's cost.
- Mature Proven Technology, Reliability Verified by Many Systems in Use.
- Simple, Dependable, Easy and Inexpensive to Maintain.
- On Average, most utilities change-out traps once per week.
- Ohio Lumex Sorbent Traps are specially custom made to your stack conditions and allow for the most accurate, reliable, and sensitive measurements.
- Our Sorbent Traps are also specially made to be analyzed by you in the Ohio Lumex Sorbent Trap Mercury Analyzer.
- The only system capable of Reliably Measuring Low Levels (< 0.5 micrograms per cubic meter). This will be critical if mercury reduction is mandated.

This analyzer is also a valuable tool for those that have chosen to monitor their mercury emissions with a continuous monitor.

- Can be used as a Low-Cost Back-Up System during CEMM maintenance and repair where a loss of data can mean tens of thousands of dollars.
- Check the Accuracy of your Calibrators.
- Perform your own RATA and Pre-RATA Tests.
- Excellent CEMMs Trouble-Shooting Tool.
- Perform Speciation Studies using our Ohio Lumex Speciation Traps.
- Flexible for Testing at Different Points and Assessing Mercury Reduction Schemes.
- Can be used to determine Mercury Levels in Coal, Ash, and Other Materials.
- Perfect to reveal best Optimization of Sorbent Injection Systems.
- Quick and easy to use where RATAs typically take less than 1 day.

The Ohio Lumex Sorbent Trap Mercury Analyzer is the industry leader in sales and reputation. It employs a unique detection system utilizing atomic absorption with Zeeman correction that eliminates the need for catalysts, gold amalgams, and drying tubes that are adversely affected by halogenated carbons essential for reliable sorbent trap measurement.

- Wide Dynamic Range of Analysis. This makes it perfectly suitable for long term compliance testing as well as RATA.
- Analyze an Entire Trap Section including Glass Wool in One Analysis.
- Typical Analysis Time like RATA samples is about 90 Seconds.
- Requires no Clean Room or Hood, Exhaust is Scrubbed.
- At Home in the Field, Travels Well. Works Great in the Lab Too.
- Software's Real-Time Peak Viewing Allows Run-Time Adjustment for Aberrant Samples.
- With no Catalyst, Gold Amalgam, Drying Tube, or Compressed Gases that Require Frequent Replacement, Operating Costs are Low.
- This Analyzer is the Industry Standard for Method 30B and Appendix-K/PS 12B with hundreds of analyzers in use.
- Operation is Easy to learn, training and certification takes One Day.

With such short analysis times, all of your samples could be analyzed in the time it would take to load an auto-sampler; without the potential for cross-contamination that the use of an auto-sampler presents.

For those in the stack emissions testing business or utilities that want to perform their own RATA tests, this is the only viable instrument for performing EPA Method 30-B in the field. The Ohio Lumex analyzer will produce results minutes after the sorbent traps are sampled ensuring that method compliant RATA results are achieved with minimal runs before the sampling crew has left the site. This will mean tremendous savings in time and money compared to "Ontario Hydro" analyses, or off-site sorbent trap analyses.

We offer the analyzer system for sale, rent, or you can send samples to us for analysis because we are also a lab. If you require additional information or a quote, please do not hesitate to contact us, or you can visit us at www.ohiolumex.com to find out more.



**To Find Out More
about the Ohio
Lumex Sorbent Trap
Analyzer System and
its capabilities call:**

888-876-2611

**or
email:
mail@ohiolumex.com**

www.ohiolumex.com



Practicality of Ohio Lumex Analyzer and Sorbent Trap System Compared to other Methods for RATA

Ohio Lumex

- Typical RATA in 1.5-2 days.
- Minimal Runs Required (As Few As 9) Since Data Integrity can be Determined On-Site.
- Testing Team Has Complete Control Over Analysis.

Ontario Hydro

- 3-5 Days Required to Get 12 Runs.
- Results Analyzed Off-Site.
- Testing Must Be Repeated if it is Discovered that 4 or More Runs Failed.
- Equipment is Expensive and Fragile.

Sorbent Traps analyzed Off-Site

- Must do Extra Runs to Ensure 9 Good Runs (12 vs. 9).
- Retesting Required if 4 or More Runs Prove to be Bad.
- Impossible to predict Spike value for Field Recovery Test.

Using a CEMM as an Instrumental Reference Method

- Expensive.
- Dynamic spiking is complicated to perform.
- No Portable NIST Traceable Calibrator for "Total" Hg is commercially available.
- Wet Stacks and High Particulates can Cause Problems.

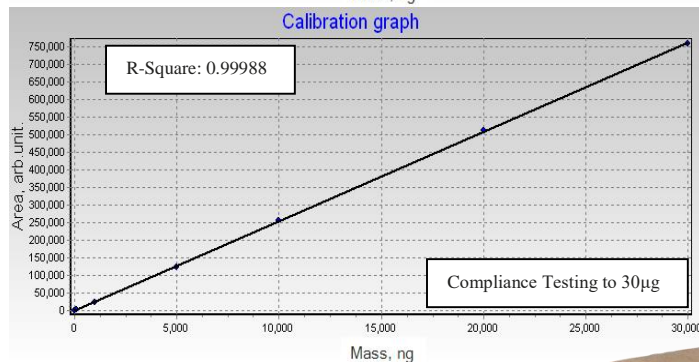
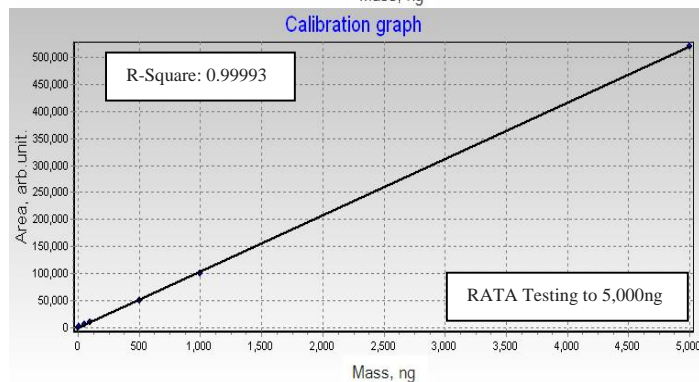
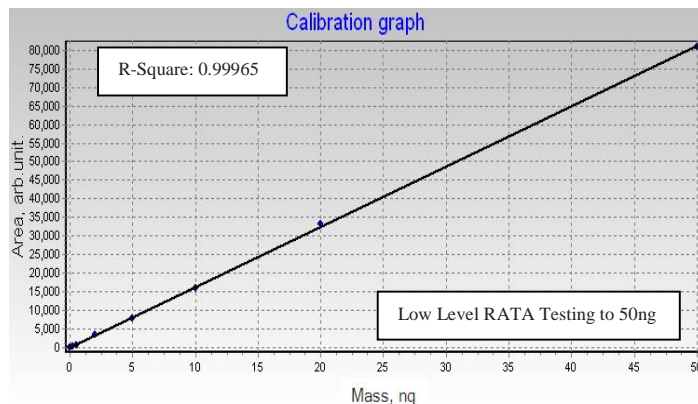
The Best Choice for EPA Method 7473

Thermal Analysis

- Analyze samples from 0.2ng/g (0.2ppb) to 30,000,000ng/g (30,000ppm).
- Most analyses take 90 seconds. Very High Level Samples take only 8-11 minutes.
- Sample Sizes up to 5g.
- Versatile: Analyze aqueous samples thermally down to 5ug/L with no digestion.
- Analyzer module is the finest Hg vapor monitor available, able to detect < 2 ng/m³
- With no catalyst, gold amalgam, or drying tube, the analyzer is not prone to damage from high-level or halogen contaminated samples.

Extremely Wide Range

The Ohio Lumex Analyzer can be easily calibrated for exceptionally high sensitivity required for low level RATA analysis as well as to perform compliance testing up to 250µg. Below are calibration curves for low level RATA samples, medium level samples, and high level weekly compliance testing. The analyzer system can also be used to measure Hg in Coal and Ash.



Sorbent Traps

Ohio Lumex Company is the most widely used sorbent trap manufacturer in the industry. Our Sorbent Traps are perfect for method 30B and PS12B where we customize the traps specific to your stack conditions.



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