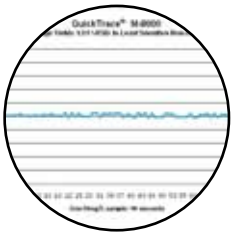
TELEDYNE LEEMAN LABS
Everywhereyoulook™

Versatile



Innovative

Customizable

QuickTrace® M-8000

CVAF Mercury Analyzer

The QuickTrace® M-8000 Cold Vapor Atomic Fluorescence mercury analyzer (CVAF) is ideal for ultra-trace to sub-mg/L mercury quantitation. It provides the performance and productivity needed by today's laboratories to meet the tightening regulatory demands, while exceptional stability and user defined QC sequencing allow for long periods of unattended operation.

The QuickTrace® M-8000 mercury analyzer easily achieves the ultra-trace mercury detection limit of < 0.05 ng/L demanded by customers employing EPA method 1631. The QuickTrace® M-8000 is also versatile enough to analyze samples > 400 µg/L without dilution.

Key Features of the QuickTrace® M-8000

The triple mode, no enrichment, single or double gold amalgamation QuickTrace® M-8000 CVAF system from Teledyne Leeman Labs is the system of choice for labs wanting to meet the most stringent reporting limits for academic research or enhanced waste discharge limits demanded by the "Clean Water Act".

- Patented non-foaming Gas Liquid Separator (GLS) with overflow prevention system
- Automatic end of run and inactivity standby routines
- ≤ 0.05 ng/L instrument detection limits
- Advanced contamination control, over range and smart rinse features
- Intuitive gas controls eliminating air infusion into the system during sample probe movements during mode 2 and 3 analysis
- EPA 1631 and EPA 245.7 compliant
- "Smart Rack" technology
- 12-roller 4-channel peristalic pump
- Sample volume 0.5 mL to > 50 mL
- Unlimited QC sample positions

Performance

The QuickTrace® M-8000 mercury analyzer easily achieves the ultra-trace mercury detection limit of < 0.05 ng/L demanded by customers employing EPA method 1631. The QuickTrace® M-8000 is also versatile enough to analyze samples > 400 µg/L without dilution.

Depending on your laboratory's requirements, the QuickTrace® M-8000 mercury analyzer supports three modes of operation:

Mode 1: Cold Vapor Atomic Fluorescence (CVAF)

Mode 2: Cold Vapor Atomic Fluorescence Single Gold Trap Amalgamation (CVAF-SGTA)

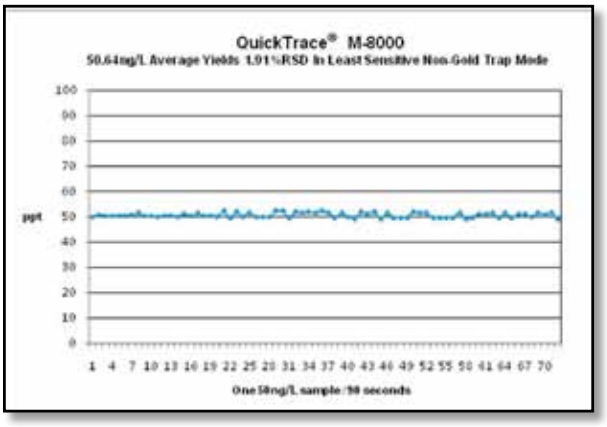
Mode 3: Cold Vapor Atomic Fluorescence Double Gold Trap Amalgamation (CVAF-DGTA)

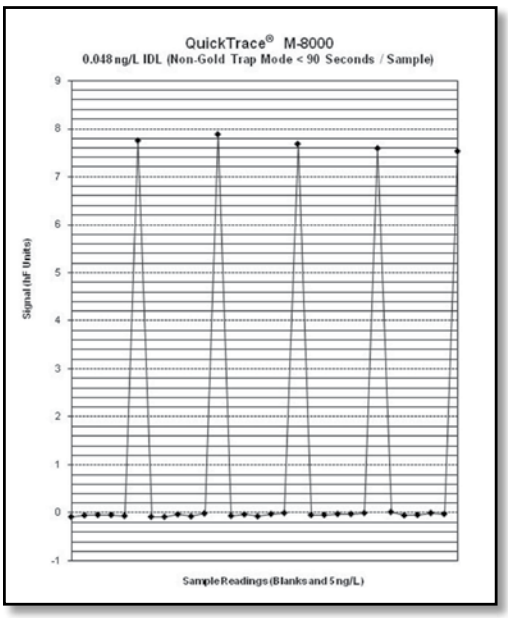
The QuickTrace® M-8000 modes can be changed without hardware or tubing configuration changes.

Excellent short and long term stability are found in our QuickTrace® M-8000 CVAF analyzer. Less than 0.02 ng/L instrument detection limits are typical for the QuickTrace® M-8000 gold trap modes utilizing less than 25 mL of sample. Non-gold trap instrument detection limits of less than 0.1 ng/L utilizing less than 10 mL of sample can be achieved.

- Ultra-trace detection limits (< 0.05 ng/L IDL)
- Linearity greater than 4 orders of magnitude
- Dynamic range < 0.05 ng/L to > 400 µg/L
- In Mode 1 by response comparison to a 100 ng/L standard, the system exhibits < 0.01% memory effect of a 1 mg/L standard immediately following the ingestion of a 1 part per million (mg/L) sample.
- In Mode 1 without employing our smart rinse technology the system is ready to accurately measure a sample within four minutes following the ingestion of a 1 mg/L sample
- Mode 2 & 3 - Short term precision (%RSD @ 95% Confidence) ≤ 2.5% @ 5 ng/L, n=5

For ultra-trace analysis we recommend our autosampler enclosure (ENC-500) to protect the samples from determinate errors such as dust particles. The ENC-500 will also protect your investment from the harsh acid gases normally present in and around digested samples.





Gold Trap Smart Rinse

We also employ cost saving features during the gold trap desorption such as shutting down the flowing rinse and slowing the $SnCl_2$ flow. These innovative features can save the laboratory thousands of dollars per year by reducing reagent and waste costs.

Applications

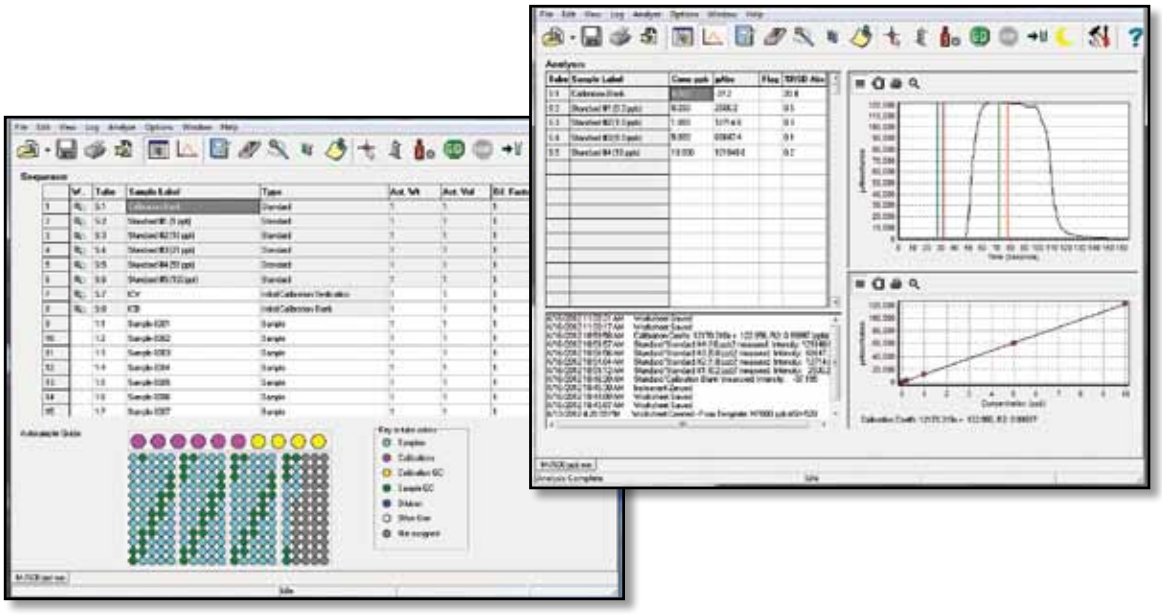
EPA Method 245.7 and 1631. European standard EN-13506 and EN-12338.

QuickTrace®

Teledyne Leeman Labs has designed the multi-tasking QuickTrace® software package to be easy to learn, yet provide valuable features and flexibility while continuously adding customer requested features, truly making the software designed by the customer for the customer.

Features of the QuickTrace® Software platform:

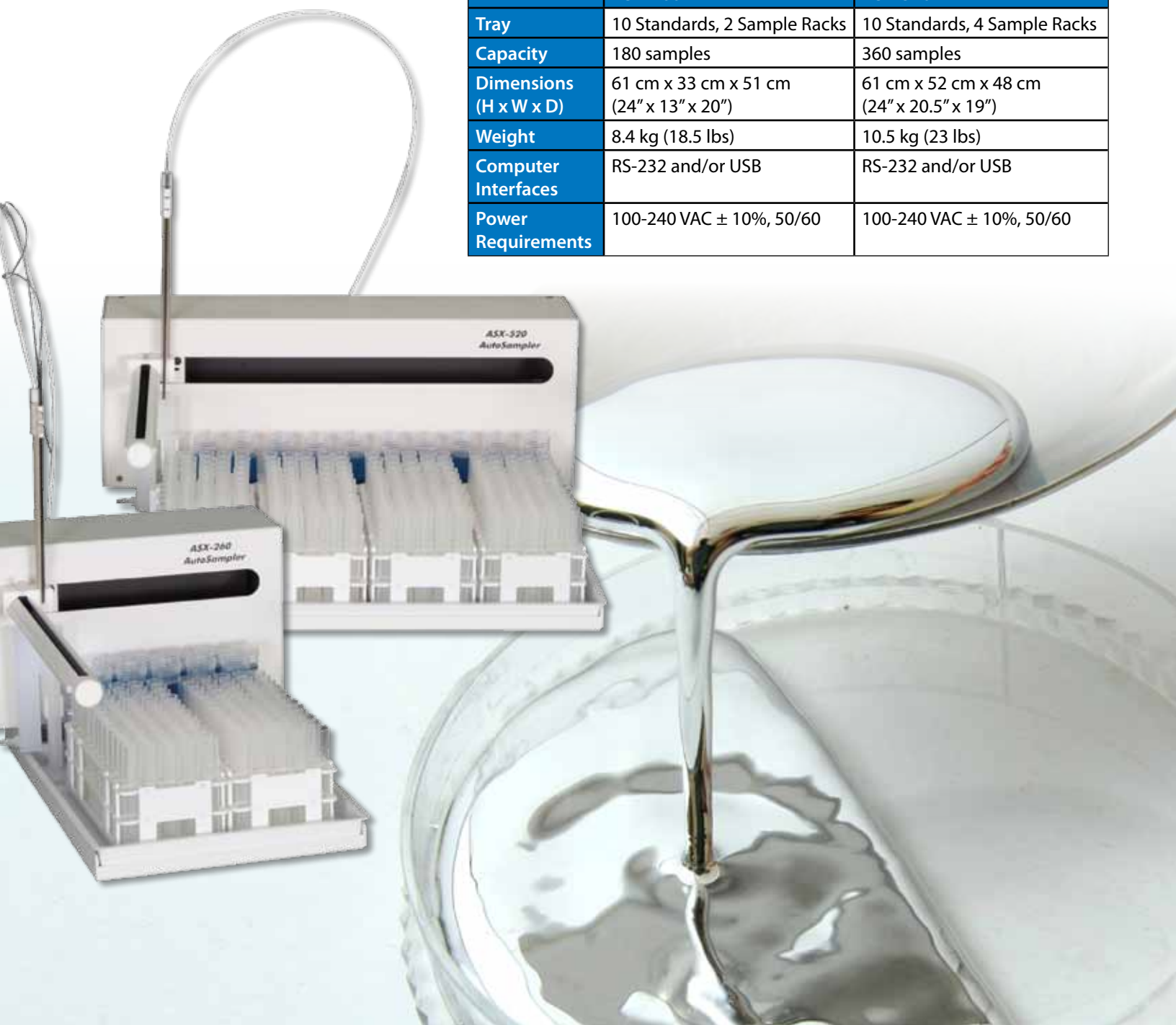
- Microsoft® Windows® 7 and Windows® 8.1
- User defined method threshold for detector saturation and smart rinse technology
- User defined smart rack technology within a given method. This technology allows the autosampler the use of racks varying in size from 90, 60, 40, 24 or 21 tube position racks for samples, standards or quality control
- True Multi-tasking
- Simultaneously run analyses, develop methods, and print reports
- EPA 245.7 and 1631 quality control compliant
- User defined blank acceptance criteria for EPA 245.7 and 1631
- Customizable quality control features
- User defined one or two point baseline offset correction
- Integrate via peak height or peak area
- Scheduled consumable maintenance tracking
- Data files are efficiently exported to a network via the Ethernet port for convenient linking to a LIMS system
- Data files can be emailed to, and opened by, a Teledyne Leeman Labs representative on a PC
- Online help for immediate software support
- Automatic detection limit calculation - determine EPA defined IDL/MDL
- Real time exportable data-tracking log
- Individualized reports - customize printouts by selecting from several parameters
- Master worksheets - ready-to-run worksheets allow quick operation for new users



Freedom of Choice

Teledyne Leeman Labs provides customers the freedom to choose an autosampler for their mercury analyzer that will meet their laboratories sample load requirements. The ASX-260 and ASX-520 autosamplers are available for any QuickTrace™ Mercury Analyzers. Manual sampling is also available with the option to add autosamplers as sample demand increases.

ASX Standard Autosampler Specifications		
	ASX-260	**ASX-520**
Tray	10 Standards, 2 Sample Racks	10 Standards, 4 Sample Racks
Capacity	180 samples	360 samples
Dimensions (H x W x D)	61 cm x 33 cm x 51 cm (24" x 13" x 20")	61 cm x 52 cm x 48 cm (24" x 20.5" x 19")
Weight	8.4 kg (18.5 lbs)	10.5 kg (23 lbs)
Computer Interfaces	RS-232 and/or USB	RS-232 and/or USB
Power Requirements	100-240 VAC ± 10%, 50/60	100-240 VAC ± 10%, 50/60



Technical Specifications

Minimum Computer Requirements
Microsoft® Windows® 7 (32 and 64-bit) and Windows® 8.1 (64-bit only)
2 GB RAM for Microsoft® Windows® 7 and Windows® 8.1
Video running 1024x768 with 24-bit color
Pentium Dual Core 2.3 GHz
Two free communication ports, either serial and/or USB
Internet Explorer 4 or higher must be installed for the online Help to function

Technical Specifications	
Carrier Gas (Ar)	Variable psi not to exceed 40 psi
Power Requirements	100-240 VAC ±10%, 50/60 Hz
Height	20 cm
Width	48 cm
Depth	60 cm
Weight	37 lbs (16.8 Kg)
Computer Interfaces	RS-232 or USB
Autosampler	ASX-260, ASX-520
Warranty	12 month limited

Leeman Labs and Elemental Analysis

Our experience isn't limited to Mercury analysis alone. It extends to a variety of other techniques, with the same quality, precision, functionality and thorough engineering we've built our reputation on. If you're seeking elemental analysis for your specific application or industry, Teledyne Leeman Labs is the solution.

Inductively Coupled Plasma – Optical Emission Spectrometers (ICP-OES)

ICP-OES is ideal for low to trace level analysis of metals, metallic components in a very wide variety of sample matrices. Whether you need to measure sodium content of sea water or trace levels of toxic elements in drinking water, ICP is a powerful and effective tool for the job.

DC Arc Spectrometer

Our DC Arc Spectrometers are the ultimate solution for elemental analysis of the most challenging solid samples. The DC Arc can perform elemental analysis on samples that are difficult or nearly impossible to digest, or samples in their native form without digestion.

TELEDYNE LEEMAN LABS
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