Direct Mercury Analyzer - CVAAS Mercury Tester - 0.001 ng Detection Limit - 5 min/Sample

Model **MSDMA-5SWISS, MSDMA-5PSWISS** | Brand **Master Science**





The Master Science Direct Mercury Analyzer determines total mercury in solid, liquid and gas samples without acid digestion. Each sample is dried and decomposed in an oxygen stream, mercury is collected on a gold amalgam trap, and the released vapour is measured by cold vapour atomic absorption at 253.7 nm.

KEY HIGHLIGHTS

- No digestion step
- Low-level sensitivity
- Consistent results
- No carryover
- Unattended runs

AT A GLANCE

Long cell 0 to 40 ng; short cell 40 to 1000 ng
MEASUREMENT RANGE (MSDMA-5SWISS)

Ambient to 1000 °C
CATALYTIC FURNACE TEMPERATURE

Ambient to 150 °C
DETECTION CELL TEMPERATURE

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

Scan to view online

Overview

Because sample preparation steps are removed, the risks of contamination, memory effect and reagent loss are much lower, and a typical result is ready in about five minutes.

The Master Science Direct Mercury Analyzer is offered in two models; specifications are listed below.

For other trace metals in the same samples, labs often add the Master Science atomic absorption spectrophotometer.

How the Master Science Direct Mercury Analyzer addresses frequent mercury testing problems:

Key Benefits

No digestion step
solid and liquid samples go straight into the instrument, saving hours of preparation and acid use.

Low-level sensitivity
pre-concentration of more than 40 times and a nano-gold amalgam trap capture trace mercury efficiently.

Consistent results
PID-controlled furnaces and double-beam lamp correction in the Master Science Direct Mercury Analyzer remove drift from temperature and source changes.

No carryover
a heated detection cell and automatic cleaning after high samples prevent memory effects.

Unattended runs
the 100-position autosampler can work for more than eight hours without an operator.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSDMA-5SWISS, MSDMA-5PSWISS
SKU	MSDMA-5SWISS, MSDMA-5PSWISS
Available Models	MSDMA-5SWISS and MSDMA-5PSWISS
Measurement Principle	Thermal decomposition, gold amalgamation, cold vapour AAS
Measurement Range (MSDMA-5SWISS)	**Long cell 0 to 40 ng; short cell 40 to 1000 ng**
Measurement Range (MSDMA-5PSWISS)	**Ultra-long cell 0 to 10 ng; long cell 0 to 40 ng; short cell 40 to 1000 ng**
Detection Limit	0.005 ng (MSDMA-5SWISS); 0.001 ng (MSDMA-5PSWISS)
Analysis Time	About 5 min per sample
Repeatability	RSD < 1.0 % at 1 ng
Catalytic Furnace Temperature	Ambient to 1000 °C
Detection Cell Temperature	Ambient to 150 °C
Autosampler	100 positions (10 × 10)
Sample Boats	Quartz or nickel
Mercury Trap Power	0 to 100 W
Memory effect after high samples	automatic cleaning restores the baseline.

OPTICAL PERFORMANCE

Light Source	Low-pressure mercury lamp
Wavelength	**253.7 nm**
Detector	Silicon UV photodetector

DIMENSIONS & WEIGHT

Sample Size	Up to 1500 mg solid or 1500 µL liquid

COMMON LABORATORY PROBLEMS AND HOW THIS ANALYZER HELPS	
Long digestion and preparation	direct thermal decomposition removes wet chemistry.
Contamination and mercury loss	fewer handling steps protect the sample.
Weighing transcription errors	balance results import with one click.
Staff time for routine batches	the 100-position autosampler runs overnight.

Applications

The Master Science Direct Mercury Analyzer serves laboratories in: Food and seafood safety testing Soil, sediment and environmental monitoring Pharmaceutical and traditional medicine testing Agriculture and feed analysis Petrochemical, coal, mining and power plant laboratories

Measurement System

- Double-beam lamp correction with dynamic drift compensation
- Automatic calibration curve switching by concentration
- Series absorption cells for a wide working range

Sample Handling

- 100-position three-axis autosampler
- Priority samples can be inserted at any time without stopping
- Balance interface for automatic weight import

Running Cost

- Separately replaceable combustion and amalgam tubes
- No water-removal consumables

Expansion Options

- Stannous chloride reduction and gas capture sampling
- Liquid sample volumes from 5 to 250 mL
- High and low concentration switching
- Gaseous mercury measurement with gas bags or sorbent tubes

Optional Accessories

- Electrothermal decomposition module
- Stannous chloride reduction module
- Gas capture and direct gas sampling
- Gaseous mercury detection upgrade