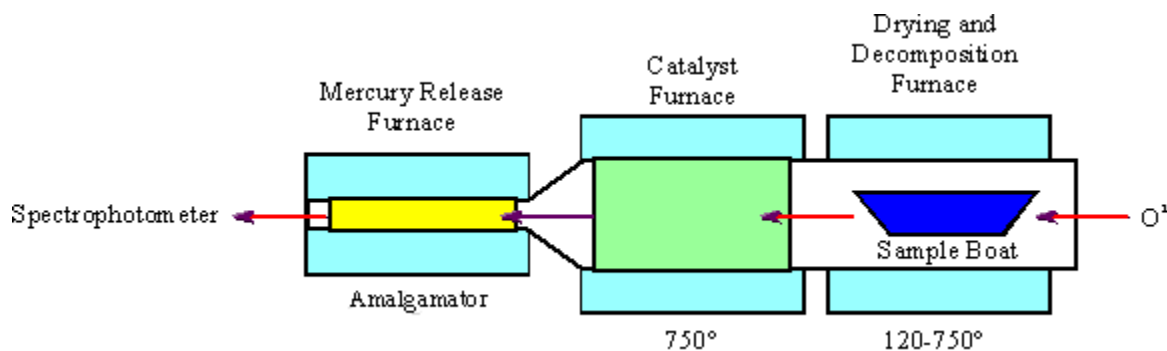


DMA – 80 Hg Analyzer Theory

Sequence of Operation

Liquid or solid samples are introduced into the DMA-80 Mercury Analyzer. Prior to combustion, the sample is initially dried in an oxygen stream passing through a quartz tube located inside a controlled heating coil. The combustion gases are further decomposed on a catalytic column at 750 °C. Mercury vapor is collected on a gold amalgamation trap and subsequently desorbed for quantitation. Mercury content is determined using atomic absorption spectrometry at 254 nm, and the results are displayed using a Pentium-based control terminal.



Technical Specifications

Instrument Control	Touch-screen controller
Instrument Optics	Single beam spectrophotometer with sequential flow through of measurement cells
Light Source	Low-pressure mercury vapor lamp
Wavelength	253.65 nm
Interference Filter	254 nm, 9 nm bandwidth
Detector	Silicon UV photodetector
Detection Limit	0.005 ng Hg
Working Range (with automatic switch-over)	Low range: 0–20 ng Hg High range: 20–1,000 ng Hg
Reproducibility	< 1.5%
Sample Treatment	Completely programmable
Sample Introduction	Built-in 40-position autosampler
Calibration	Performed with Std. Ref. Materials in liquid or solid form
Max. Liquid Sample Volume	1,500 µL
Max. Solid Sample Weight	2,000 mg
Carrier Gas	Oxygen
Input Pressure	4 bar (60 psig)
Flow Rate	~ 165 mL/min
Power	110 V / 60 Hz
Dimensions	29 x 19 x 9 in.
Weight	56 kg (123 lbs.)