



800-528-7411
602-470-1414
www.azic.com

Jerome® 431-X Mercury Vapor Analyzer

The Jerome 431-X mercury vapor analyzer uses a patented gold film sensor for accurate detection and measurement of toxic mercury concerns for applications such as industrial hygiene monitoring, mercury spill clean up and mercury exclusion testing. Simple, push-button operation allows users to measure mercury levels from 0.003 to 0.999 mg/m³ in just seconds.

The gold film sensor is inherently stable and selective to mercury, eliminating interferences common to ultraviolet analyzers, such as water vapor and hydrocarbons. When the sample cycle is activated, the internal pump in the 431-X draws a precise volume of air over the sensor. Mercury in the sample is absorbed and integrated by the sensor, registering it as proportional change in electrical resistance. The instrument computes the concentration of mercury in milligrams per cubic meter or nanograms, and displays the final result in the LCD readout. An improved film regeneration circuit in the 431-X makes the sensor last even longer than earlier models.

Additional accessories are available to customize the Jerome 431-X to meet individual application needs. An optional communications configuration allows data logging, computer interface, and dosimeter analysis capabilities. For data acquisition during portable surveys, a Jerome data logger plugs into the 431-X. Using Jerome Communications Software (JCS), the analyzer and data logger download recorded data to a computer for analysis, printout, and permanent record storage. The software can also program the instrument for stand-alone monitoring. If the sensor becomes saturated while the 431-X is attached to the data logger or computer, the analyzer automatically regenerates the sensor and then resumes sampling. Jerome gold coil dosimeters, used in conjunction with a low-flow pump and a communications-configured 431-X, provide time-weighted averages for personal mercury exposure. Analysis is quickly performed in-house with these reusable dosimeters. They can also be used as collection devices for applications such as gas stream analysis. An available internal option board allows auto-zeroing, DC power operation, timed regeneration, and timed sampling during prolonged, unattended sampling periods. The option board also allows external fresh air solenoid support and 4-20 mA or 0-2 V analog output. A molded hard carrying case or soft field case give added versatility and organized storage for the instrument and its accessories.



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Mercury Vapor Analyzer



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Features:

Rugged and easy operate
Inherently stable gold film sensor
Pressure sensitive membrane switch operation
Accurate analysis of mercury vapor in seconds
Rechargeable internal battery pack for portability
Wide detection range allows for multiple applications
Automatic LCD backlight during low light conditions
Survey mode for rapid source detection of mercury vapor concentrations
Microprocessor ensures a linear response throughout the entire range of the sensor

Specifications:

Resolution	0.001 mg/m ³
Detection Range	0.003-0.999 mg/m ³
Precision	5% Relative Standard Deviation at 0.100 mg/m ³
Accuracy	±5% at 0.100 mg/m ³
Response Time	13 seconds in Sample Mode; 4 seconds in Survey Mode
Flow Rate	750 cc/min
Environmental Range	0-40°C, noncondensing, nonexplosive
Interface	RS-232 port using Jerome Communications Software
Dimensions	431-X: 6" W x 13" L x 4" H / 16 cm W x 33 cm L x 10 cm H 431-XE: 7" W x 14" L x 7" H / 18 cm W x 35 cm L x 18 cm H
Weight	431-X: 7 lbs / 3 kg 431-XE: 8 lbs / 3.5 kg
Internal Battery Pack	Rechargeable nickel-cadmium
Power Requirements	100-120 V~, 50/60 Hz, 1 A or 220-240 V~, 50/60 Hz, 1 A
Warranty	1 year, factory parts and labor
Marks	European Communities (CE) for 220-240 V~ 431-XE model only

Options:

Data Logger to record field monitoring information
Maintenance Kit for routine maintenance and upkeep
Functional Test Kit for sensor operation verification in the field
Hard or Soft Field Carrying Case for versatile handling and additional storage
Jerome Communications Software Kit for downloading information from the data logger to a PC or for unattended, fixed-point sampling
Dosimeters to provide time-weighted averages for personal mercury exposure or gas steam analysis (reusable)
Option Board for external fresh air solenoid support, auto-zeroing, DC power operation, timed regeneration, 4-20 mA or 0-2 V analog output, and timed sampling
Calibration Check to verify low-level detection limits at 0.010 mg/m³ and 0.025 mg/m³

Applications:

Mercury Surveys and Soil Screening	Research Projects for Stack, Flue and Natural Gas
Spill Response	Mercury Exclusion Tests
Worker Safety	Monitor Disposal and Recycling of Fluorescent Lamps
Hazardous Waste Sites	Exhaust Duct Analysis