

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.

Additional 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

Jerome® 431-X 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	Sample Mode: 12 seconds, Survey Mode: 4 seconds
Flow Rate	750 cc/min
Environmental Range	0-40°C, noncondensing, non-explosive
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 (NiCad)
Power Requirements	100-120 V~, 50/60 Hz, 1 amp or 220-240 V~, 50/60 Hz, 1 amp
Warranty	1 year, factory parts and labor
Marks	European Communities (CE) for 220-240 V~ 431-XE model only

Optional Equipment/Accessories:

- 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
- Dosimeters to provide time-weighted averages for personal mercury exposure or gas stream analysis
- Option Board for external fresh air solenoid support, auto-zeroing, DC power operation, timed rege
- Calibration Check to verify low-level detection limits at 0.010 mg/m³ and 0.025 mg/m³

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