

# 451 Mercury Vapor Monitoring System



## RUGGED FENCE-LINE MERCURY MONITORING

Heavy duty, reliable and versatile mercury vapor monitoring—the Jerome® 451 monitoring system from AMETEK Arizona Instrument is designed to provide long-term, continuous monitoring even in rough weather conditions. Stationed on a pole, fence or wall, multiple units can be linked to form a perimeter monitoring system. The detachable, hand-held analyzer within the unit can be used to sweep an area and help pinpoint the source of mercury contamination so that corrective action can be taken.

JEROME®



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## Mercury vapor analysis for a wide range of applications

### FEATURES

**PERIMETER MONITORING:** Multiple Jerome® 451 units can be linked to form a perimeter monitoring system to help locate the source of mercury contamination and ensure safety and compliance.

**DETACHABLE UNIT:** Quickly and easily sweep an area for mercury hot spots with the detachable, hand-held Jerome® 431-X mercury vapor analyzer.

**GOLD FILM SENSOR:** Validated in the field and in the lab for over 35 years, our proprietary gold film sensor ensures repeatable results across a wide range of applications.

**WEATHER STATION:** The attached weather station monitors outside temperature as well as wind speed and direction for increased accuracy in pinpointing the source of mercury contamination.

**DATA TRANSMISSION:** Advanced data logging and radio telemetry capabilities make downloading data to a remote PC easy and convenient.

**PC SOFTWARE:** Intuitive PC software with user selectable time-weighted average reporting and a site view tab give users a bird's eye view of the monitoring system as a whole.

**PROGRAMMABLE ALARMS:** The 451 comes with programmable alarms that automatically send email alerts if your mercury levels rise above your specified upper limit.

**TEMPERATURE CONTROLLED INTERIOR:** Resistive heating and thermoelectric cooling keep the interior of the 451 at a consistent temperature for increased accuracy.

**REGULATORY COMPLIANCE:** The 451 meets and exceeds OSHA, NIOSH, ACGIH and MSHA action levels, making it ideal for monitoring mercury levels in high-risk areas, such as in industrial hygiene and mining.

### SPECIFICATIONS

<b>Detection Range</b>	0.003 mg/m <sup>3</sup> to 0.999 mg/m <sup>3</sup>
<b>Resolution</b>	0.001 mg/m <sup>3</sup>
<b>Accuracy</b>	±8% at 0.100 mg/m <sup>3</sup>
<b>Sample Intervals</b>	1, 2, 5, 10, 15, 30, 60 or 120 minutes
<b>Regeneration Intervals</b>	6, 12, 24 and 48 hours
<b>Flow Rate</b>	750 mL/min
<b>Operating Environment</b>	-40°C to 55°C, non-explosive, 0-100% RH
<b>Result Units</b>	mg/m <sup>3</sup>
<b>Data Storage Capacity</b>	50,000 test results
<b>Power Requirements (451 Unit)</b>	100-120 VAC, 50/60 Hz, 7A or 210-240 VAC, 50/60 Hz, 4A
<b>Control Board Fuse</b>	Fast-acting IEC 1.6A 250V, 5 mm x 20 mm
<b>Case Construction</b>	Polyester with insulation to reduce heat transfer
<b>Battery (Detached 431-X Unit)</b>	Rechargeable NiCad 6 hour life
<b>Estimated Sensor Life</b>	3 to 6 months depending on operating conditions
<b>Display</b>	8 digit alphanumeric LCD
<b>Output</b>	Spectra Radio Analog: 4-20 mA passive current loop
<b>Dimensions</b>	26" W x 25" H x 9" D (67 cm W x 64 cm H x 23 cm D)
<b>Weight</b>	52 lbs. (24 kg)
<b>Warranty</b>	1 year, factory parts and labor except for 431-X sensor

### SPECTRA RADIO MODEM SPECIFICATIONS:

<b>Frequency</b>	2.4-2.4835 GHz (2400 MHz) 49 selectable channels
<b>Serial Interface</b>	RS-232
<b>Power Requirement</b>	10-30 VDC, 450 mA
<b>Operating Temperature</b>	-40°C to 75°C
<b>Range</b>	Up to 6.4km (4 mile) "line of sight" Longer distances may be obtainable through use of a high gain antenna or by using the optional Radio Repeater



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