

Bid Specifications: HAZMATCAD™ and HAZMATCAD™ Plus ***Hazardous Material Chemical Agent Detectors with Selected TICs***

Physical Characteristics	
Size	Instrument shall not exceed 2.3 x 7.9 x 9.8 inches (5.8 x 20.0 x 24.9 cm) in total size - HAZMATCAD™ Plus. Instrument shall not exceed 2.3 x 2.5 x 7.8 inches (5.8 x 6.2 x 19.8 cm) in total size - HAZMATCAD™.
Weight	50 ounces with batteries (1.43kg) HAZMATCAD™ Plus 22 ounces with batteries (0.63kg) HAZMATCAD™
Handling	Unit shall be easily held in one hand.
Case Material	High strength non-corrosive, flame resistant ABS.
Display Location	Display is viewable from the top and front.
Protective Jackets	Instrument shall be provided with rubber protective jacket which can be easily removed, discarded, and replaced if the instrument has been exposed to a hazardous chemical.

User Interfaces	
Display Type	Four large, easy to read alphanumeric LEDs.
Keypad/Switches	Unit must have no more than four pushbuttons to operate with no requirement for hidden or internal switches for any instrument operation.
Instrument Turn On/Off	Separate, clearly marked buttons for instrument turn on /turn off.
Alarm Silence	Alarms must be able to be silenced with a single clearly marked button press.
Mode Select	Ability to change from Fast or High Sensitivity Mode with a clearly marked button.

Sensing and Monitoring Capabilities	
Technology	Instrument must possess Surface Acoustic Wave (SAW) microsensor array and electrochemical cell array HAZMATCAD™ Plus. Instrument must possess Surface Acoustic Wave (SAW) microsensor array - HAZMATCAD™ .
Gas Types	Instrument must be able to detect Nerve (G), Blister (H), Phosgene, Hydrogen Cyanide, Halogen, and Hydride gases simultaneously - HAZMATCAD™ Plus. Instrument must be able to detect Nerve (G), Blister (H) and Phosgene or Hydrogen Cyanide simultaneously - HAZMATCAD™ .
Warm-Up	Instrument warm-up period shall be less than 3 minutes.

Battery Operation	
Battery "Hot-Swap"	Instrument must be able to run on one battery for four to six hours while other battery is being replaced, recharged, or is out of service.
Battery Replacement	Batteries must be easily replaceable with no tools required.
Battery Run Time	Instrument must be able to operate for eight to twelve hours on two rechargeable lithium ion batteries.

Datalogging Capability	
Datalogging	Instrument must be capable of datalogging up to 45 hours.
Datalog retrieval	Instrument must be able to retrieve instrument datalog via infrared communication port.

Sampling Pump System	
Internal Pump	The monitor is available in the pumped version.
Pump Sample Inlet Protection	Pump sample inlet must have three modes of operation: OPEN for direct access to sample inlet, DUST FILTER to prevent particulate matter and water from entering the sample inlet, and CLOSED to secure the sample inlet.

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Instrument Alarms and Status LEDs	
Visual Alarms	Visual LED alarm must be visible in two discrete locations, one on top of instrument, and one on face of instrument. Visual Alarm LED must flash at a rate correlating to the alarm level.
Audible Alarm	Audible alarm shall be rated at 85 db at 0.1 meter.
Status LEDs	Four Status LEDs (Alarm, Low Battery, All Clear, and System OK) must be visible in two discrete locations, on top and on face of instrument.
Chemical Agent Classification	Instrument must be able to classify and clearly display G, H, Choking, Blood, Hydride, and Halogen gas alarms - HAZMATCAD™ Plus. Instrument must be able to classify and clearly display G, H, and TOX (Phosgene or Hydrogen Cyanide) gas alarms - HAZMATCAD™.
Alarm Level Classification	Instrument must be able to determine three relative levels of alarm concentration and clearly display LOW, MEDIUM, or HIGH.

Alarm Thresholds	
CWA Thresholds -Fast Mode	Nerve (G) Agents 0.3 to 0.9 mg/m ³ or (0.04 to 0.14ppm) Blister (H) Agents 1.4 mg/m ³ or (0.2ppm)
CWA Thresholds -High Sensitivity Mode	Nerve (G) Agents 0.06 to 0.18 mg/m ³ or (0.01 to 0.03ppm) Blister (H) Agents 0.28 mg/m ³ or (0.04ppm)
TIC Thresholds - HAZMATCAD™ Plus	Hydrogen Cyanide - Blood Agent - 5.0ppm Phosgene - Choke Agent - 0.3ppm Hydride Gases - 0.5ppm Halogen Gases - 10.0ppm
TIC Thresholds - HAZMATCAD™	Hydrogen Cyanide - Blood Agent - 5.0ppm Phosgene - Choke Agent - 0.3ppm

Environmental	
Temperature	Operating Temperature range 0 to 40c, Storage Temperature range -10 to 60c.
Humidity	Operating Humidity range 0 to 95% RH, non-condensing.

Calibration and Bump Check	
Calibration	No user calibration is required.
Bump Check	Instrument must be supplied with vapor check source to verify operation of both Nerve (G) and Blister (H) agents.

Warranty	
Warranty	Instrument shall have one year parts and labor standard warranty with extended one year warranty available.