



# MiniRAE 2000

## Portable Handheld VOC Monitor

The rugged MiniRAE 2000 is the smallest pumped handheld volatile organic compound (VOC) monitor on the market. Its Photoionization Detector's (PID) extended range of 0 to 10,000 ppm makes it an ideal instrument for applications from environmental site surveying to HazMat/Homeland Security.

### Key Features

- **Proven PID technology** The patented sensor provides a 3-second response up to 10,000 ppm and sets a new standard for resistance to moisture and dirt.
- **Wireless communication enabled and certified**
- **Self-cleaning lamp and sensor** The patented self-cleaning lamp and sensor minimize the need for maintenance and calibration.
- **The MiniRAE 2000 lamp and sensor can be taken apart in seconds for easy maintenance without tools!**
- **Measure more chemicals than with any other PID.** With over 100 Correction Factors built into the MiniRAE 2000 memory and the largest printed list of Correction Factors in the world (300+), RAE Systems offers the ability to accurately measure more ionizable chemicals than any other PID. When a gas is selected from the MiniRAE 2000's library, the alarm points are automatically loaded into the meter.
- **User friendly** screens make it easy to use for simple applications and flexible enough for sophisticated operations.
- **Drop-in battery** When work schedules require putting in more than the 10 hours supplied by the standard NiMH battery, the drop-in alkaline pack supplied with every MiniRAE 2000 lets you finish the job.
- **Rugged Rubber Boot** The standard rubber boot helps assure that the MiniRAE 2000 survives the bumps and knocks of tough field use.
- **Strong, built-in sample pump** draws up to 100 feet (30 m) horizontally or vertically.
- **Tough, flexible inlet probe**
- **Large keys** operable with 3 layers of gloves.
- **Easy-to-read display** with backlight.
- **Stores up to 267 hours of data** at one-minute intervals for downloading to PC.
- **3-year 10.6 eV lamp warranty**

### Applications

#### HazMat/Homeland Security

- Initial PPE (personal protective equipment) assessment
- Leak detection
- Safety perimeter establishment and maintenance
- Spill delineation
- Decontamination
- Remediation

#### Industrial Hygiene/Safety

- Confined Space Entry (CSE)
- Indoor Air Quality (IAQ)
- Worker exposure studies

#### Environmental

- Soil and water headspace analysis
- Leaking underground storage tanks
- Perimeter fence line monitoring
- Fugitive emissions (EPA Method 21)
- Vapor recovery breakthrough
- Landfill monitoring

 **AutoRAE Compatible**

 **Wireless**



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# MiniRAE 2000

## Specifications\*

### Detector Specifications

<b>Size</b>	8.2" L x 3.0" W x 2.0" H (21.8 x 7.62 x 5.0 cm)
<b>Weight</b>	20 oz with battery pack (553 g) w/o rubber boot
<b>Sensor</b>	Photoionization sensor with standard 10.6 eV or optional 9.8 eV or 11.7 eV UV lamp
<b>Battery</b>	<ul style="list-style-type: none"><li>• Rechargeable, external, field-replaceable Nickel-Metal-Hydrate (NiMH) battery pack</li><li>• Alkaline battery holder (for 4 AA batteries)</li></ul>
<b>Operating Period</b>	10 hours continuous operation
<b>Display</b>	Large LCD, backlight activated manually, by alarms or by darkness
<b>Keypad</b>	1 operation and 2 programming keys
<b>Direct Readout</b>	<ul style="list-style-type: none"><li>• VOCs as ppm by volume</li><li>• High and low values</li><li>• STEL and TWA (in hygiene mode)</li><li>• Battery and shut down voltage</li></ul>
<b>Alarms</b>	90 dB buzzer and flashing red LED to indicate exceeded preset limits: <ul style="list-style-type: none"><li>• High: 3 beeps and flashes per second</li><li>• Low: 2 beeps and flashes per second</li><li>• STEL and TWA: 1 beep and flash per second</li><li>• Alarms automatic reset or latching with manual override</li><li>• Optional plug-in pen size vibration alarm</li><li>• User adjustable alarm limits</li></ul>
<b>Calibration</b>	Two-point field calibration of zero and standard reference gas. Calibration memory of 8 calibration gases, alarm limits, span values and calibration date
<b>Datalogging</b>	267 hours (at one-minute intervals) with date/time. Header information includes monitor serial number, user ID, site ID, date and time
<b>Sampling Pump</b>	<ul style="list-style-type: none"><li>• Internal, integrated flow rate of 400 cc/min</li><li>• Sample from 100' (30 m) horizontally or vertically</li></ul>
<b>Low Flow Alarm</b>	Auto shut-off pump at low flow condition
<b>Communication</b>	Download data and upload instrument set-up from PC through RS-232 link to serial port. Wireless communication enabled and certified (requires RAElink2 and ProRAE Remote to use)
<b>Temperature</b>	14° F to 104° F (-10° C to 40° C)
<b>Humidity</b>	0% to 95% relative humidity (non-condensing)
<b>EM/RFI</b>	Highly resistant to EMI /RFI. Compliant with EMC Directive 89/336/EEC
<b>IP-rating</b>	IP-55: protected against dust, protected against low-pressure jets of water from all directions
<b>Hazardous Area Approval</b>	<ul style="list-style-type: none"><li>• <b>US and Canada:</b> UL and cUL, Classified for use in Class I, Division 1, Groups A, B, C and D hazardous locations</li><li>• <b>Europe:</b> ATEX II IG EEx ia IIC T4</li></ul>
<b>Attachment</b>	Durable bright yellow rubber boot w/belt clip & wrist strap
<b>Warranty</b>	Lifetime on non-consumable components (per RAE Systems Standard Warranty), 3 years for 10.6.V PID lamp, 1 year for pump and battery

\* Specifications are subject to change

\*\* Performance based on isobutylene calibration

### Default Sensor Settings\*\*

Gas Monitor (ppm)	Range (ppm)	Resolution Time (T90)	Response
VOCs	0 to 99.9 ppm	0.1 ppm	< 3 sec
	100 to 10,000 ppm	1 ppm	< 3 sec

## MiniRAE 2000 and Accessories

### Monitor only includes:

- RAE Systems UV lamp: 10.6 eV, 9.8 eV or 11.7 eV as specified
- ProRAE Suite software package for Windows® 98, NT, 2000 and XP
- Computer interface cable
- 5-inch Flex-I-Probe
- External filter
- Rubber boot with belt clip
- Alkaline battery adapter
- Tool kit
- Lamp cleaning kit
- Nickel-Metal-Hydrate (NiMH) battery
- 120/230 V AC/DC wall adapter (if specified)
- Operation and maintenance manual

### Monitor with accessories kit adds:

- Hard transport case with pre-cut foam padding
- 5 porous metal filters and O-rings
- Organic vapor zeroing adapter
- Gas outlet port and tubing

### Optional calibration kit adds:

- 10 ppm isobutylene calibration gas, 34L
- Calibration regulator and flow controller

### Optional Guaranteed Cost of Ownership Program:

- 4-year repair and replacement guarantee
- Annual maintenance service

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