



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 0-10,000 ppm makes it an ideal instrument for applications from environmental site surveying to HazMat/Homeland Security.



Key Features

Proven PID technology The patented 3D sensor provides a 3-second response up to 10,000 ppm and sets a new standard for resistance to moisture and dirt.

Self-cleaning lamp and sensor Our 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 any 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 (30m) 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 (with the datalogging option).

3-year 10.6 eV lamp warranty

Applications

HazMat/Homeland Security

- Initial PPE (personal protective equipment) assessment
- Leak detection
- 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

Specifications*

Default Sensor Settings**

Gas Monitor	Range (ppm)	Resolution (ppm)	Response Time (T90)
VOCs	0 - 999 ppm	0.1 ppm	< 3 sec
	100 - 10,000 ppm	1 ppm	< 3 sec

Detector Specifications

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

* On going projects to enhance our products means that these specifications are subject to change

** Performance based on isobutylene calibration

MiniRAE 2000 and Accessories

Monitor only includes:

- 10.6eV, 9.8eV or 11.7eV as specified
- RAE Systems UV lamp: 10.6eV, 9.8eV or 11.7eV as specified
- 5-inch Flex-I-Probe
- External filter
- Rubber boot with belt clip
- Alkaline battery adapter
- Tool kit
- Lamp cleaning kit
- Nickel-Metal-Hydrate 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
- 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

Datalogging monitor adds:

- ProRAE Suite software package for Windows 98, NT, 2000 and XP
- Computer interface cable

Optional Guaranteed Cost of Ownership Program:

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



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