

# VRAE

Handheld Five-Gas Surveyer.

## Introduction

The VRAE is a powerful, pumped, one to five-gas monitor that protects workers from combustible gases and vapors, toxic gases and oxygen deficiency/enrichment. This versatile instrument can measure concentrations of combustibles either as percentage by volume or as percentage of lower explosive limit (LEL). The VRAE's rechargeable Nickel-Hybride battery, powerful internal pump and rugged frame make it ideal for confined space entry, leak detection and site surveys.

## Key Features

- Wide variety of interchangeable sensors.
- Familiar intuitive user interface.
- Large keys usable even with three layers of gloves.
- Large backlit LCD display.
- Internal pump for quick response and simple remote sampling.
- Field-replaceable rechargeable battery with ten hours of continuous operation.
- Rugged weather-proof case.

## Key Benefits

- Powerful and versatile.
- Easy to use.
- Durable and intrinsically safe.



# Technical Specifications

[www.unitedsafety.net](http://www.unitedsafety.net)

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Dectector Specifications	
Size	7.75Lx2.75Wx1.5"H (19.6x7.0x3.8 cm)
Weight	19 oz (540 g) with battery
Sensors	Catalytic sensor for combustible gas. Thermal conductivity sensor for percentage volume combustible gas Electrochemical sensors for oxygen and toxic gases
Battery	Rechargeable, snap-in, field-replaceable 4.8 V/1250 mAh, Ni-MH battery pack / 4 AA battery adapter
Operating Hours	10 hours of operation
Display	2 lines, 16 digit LCD with LED back light automatically turns on in dim light or alarm condition
Keypads	1 operation and 2 programming keys
Direct Readout	Instantaneous reading. Oxygen as percentage by volume Combustible gas as percentage by volume or percentage of Lower Explosive Limit (LEL)
Alarms	90 dB buzzer and flashing red LED to indicate exceeded preset alarms High: 3 beeps and flashes per second Low: 2 beeps and flashes per second STEL and TWA: 1 beep and flash per second Alarms latching with manual override or automatic reset Additional diagnostic alarm and display message for low battery and pump stall
Datalogging	Optional 16,000 points (53 hours, 5 channels at one minute intervals) download to PC with serial number of unit, user ID, site ID and Calibration date
Calibration	Two-point field calibration of zero and span gas
Sampling Pump	Internal, integrated flow rate at 400 cc/mn /Automatic shut off at low flow condition
Hazardous Area Approval	US and Canada: Classified as Intrinsically Safe for use in Class I, Division 1 Groups A, B, C, D, Hazardous Locations T3C rating
Temperature	-4 to 113°F (-20 to 45°C)
Humidity	0% to 95% relative humidity (non-condensing)
Attachment	Durable rubber boot with wrist strap
Warranty	Lifetime on non-consuming components (per RAE Systems standard warranty), 2 years for O <sub>2</sub> , LEL, LO and H <sub>2</sub> S sensors, 1 year for all other sensors. 1 year pump. 1 year battery

Sensor Specifications					
Gas Monitor	Range	Resolution	Gas Monitor	Range	Resolution
Combustible	0 to 100% LEL	1%	Nitric Oxide	1 to 250 ppm	1 ppm
	0 to 100% VOL	1%	Nitrogen Dioxide	0 to 20.0 ppm	0.1 ppm
Oxygen	0 to 30.0%	0.1%	Chlorine	0 to 10.0 ppm	0.1 ppm
Carbon Monoxide	0 to 500 ppm	1 ppm	Hydrogen Cyanide	0 to 100 ppm	1 ppm
Hydrogen Sulfide	1 to 100 ppm	1 ppm	Amonia	0 to 50 ppm	1 ppm
Sulfur Dioxide	0 to 20.0 ppm	0.1 ppm	Phosphine	0 to 5.0 ppm	0.1 ppm



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