

# CBMS Block II



## CHEMICAL BIOLOGICAL MASS SPECTROMETER

The Chemical Biological Mass Spectrometer Block II is a new and improved system for the detection and identification of chemical and biological warfare agents. This system is currently in development for the U.S. Army's Soldier and Biological Chemical Command by the Oak Ridge National Laboratory and their industrial partner, Orbital Sciences Corporation.



The CBMS Block II consists of a mass spectrometer module, sample introduction module, biosampler module, and a soldier display unit. The biodetection system is based on direct sampling and thermolysis/derivatization of biological particulates. This “dry” system minimizes the logistical burden and operating costs. This system offers significant reductions in weight, size and power consumption over the current CBMS and other systems. The CBMS Block II is designed for use in reconnaissance vehicles and other mobile detection systems.

**WINNER OF THE 2000 R&D 100 AWARD.**

### KEY FEATURES

- Improved Sensitivity & Selectivity
- User-Friendly Operator Interfaces
- Improved Reliability, Maintainability & Upgradability
- Reduced Size and Weight
- Reduced Power Consumption
- Full Built-In Test Capability
- Lower Unit Cost
- JWARN Compatible
- Low Burden Logistics/Minimal Consumables



**A Design for Battlefield Deployment that can be Tailored for Less Harsh Environments**

# CBMS Block II

## TECHNICAL SPECIFICATIONS

### Performance

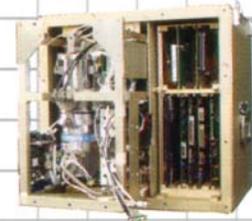
Sensitivity	
• Chemical	CW threat agents (nerve, blister, blood & choking) 0.4 mg/m <sup>2</sup> surface
• Biological	BW threat agents (bacteria, toxins and viruses) 25 Agent-Containing Particles per Liter of Air (ACPLA)
Detection & Identification Time	Biological, < 4 min.; Chemical, < 45 sec.
Size (H x W x D)	5.8 cubic feet (36 x 20 x 14 inches)
Total system Weight (incl. Biosampler)	170 lb. (77 Kg.)
System Power	Peak power, < 1000W; Operating, < 500 W
Input Voltage	20-31 Vdc
Temperature Range	
• Operating	-25°F to 120°F
• Storage	-60°F to 160°F
Humidity (operating)	5-95% RH
Shock and Vibration	MIL-STD-810E
Electromagnetic Interference	MIL-STD-461
Mean Time to Repair (MTTR)	< 30 minutes
Data Storage	Capable of storing and maintaining 72 hours of continuous operational data in memory



Biosampler Module



Sample Introduction Module



Mass Spectrometer Module



Soldier Display

### Target Applications/Uses

NBCRS LAV	Domestic Preparedness
Joint Service Lightweight NBC Reconnaissance System (JSLNBCRS)	
Biological Integrated Detection System (BIDS III)	Counter Terrorism
	Treaty Verification



BIDS



FOX NBCRS