

IVA® MODEL 210S INTERNAL VAPOR ANALYZER



With the IVA® Model 210s Internal Vapor Analyzer, you can perform package moisture and gas analysis, on-site at your facility. This is a user-friendly test system for monitoring the quality of your hermetic packaging processes.

IVA® technology was invented by ORS and offers the most accurate and reproducible data in the industry.

The IVA® system is specifically designed for the quantitative analysis of low molecular weight gases contained in hermetic packages, cavities and other enclosures. The Model 210s concept integrates automated hardware with easy-to-use icon-driven software. Its design permits routine quality control, failure analysis and research level testing operation as a turn-key analytical system. The IVA® Model 210s includes a high-performance, quadrupole-mass spectrometer analyzer, a sample-mounting interface and precision hardware. The instrument is also computer-controlled and equipped with exclusive ORS integrated system control software — which provides instrument control, data analysis, data archiving and ease of operation.

Sample Types Analyzed:

- Microelectronic Components and Multi-Chip Modules
- Fiber-Optic Devices and Sensors
- Light Bulbs, Lamps and Ampoules
- Pacemakers and other Medical devices
- Large-Scale Electronic Devices and Units
- Gas Collection Bottles and Cylinders ([see gas cylinder rental](#))
- Vials Containing Bulk Material in a Dry Nitrogen Atmosphere
- Voids and Blisters in Processed Metals, Ceramics and Plastics
- Syringes Containing Extracted Gases
- Aerosols
- Mylar Bags and Other Hermetic Packaging

Test Standards/Method

Known to some as Residual Gas Analysis (RGA) testing or

- Mil-Std 883 TM 1018

- Mil-Std 750 TM 1018

Commercial Practice Test Method MEL-1053 MEL-1070 MEL-1080

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System Capabilities	System Specifications
Simultaneous measurement of the concentrations of moisture, sealing gases, solvents and outgassing products of each device tested	Measurement: Moisture, nitrogen, oxygen, argon, carbon dioxide, hydrogen, helium, fluorocarbons, hydrocarbons and most solvents to ppm levels
Positive identification of gases by spectral analysis	Device Types: Cerdips, sidebraze, flatpacks, chip carriers, cerpacks, TO's, relays, multi-chip modules, lamps and other hermetic enclosures, pacemakers, fiber optic modules, glass ampoules
Sensitivity in the parts-per-million range	Device Volume: 0.01cc – 20cc and larger
Measurement of the relative pressure in each package	Sensitivity: Better than 100 ppmv for moisture and better than 10 ppmv for other gases
Interchangeable sample mount design for testing a wide variety of metal and ceramic packages	Accuracy: Better than ±10% at 5000 ppmv for moisture
Automated calibration, data acquisition and quantitation	Throughput: Up to 10 samples per hour depending on sample type
Comprehensive interlock system to protect the unit from power failures, operator errors and hardware failures	Spectra Database: Access to a Mass Spectra Database of over 140,000 spectra for assistance in the identification of unknown compounds
File management and statistical handling programs	
Quantitative and Qualitative Results	
Adjustable AMU Scan Range (1-512 AMU) and Speed	
Variable test temperature	