



GBC Scientific Equipment

Pre-Owned 932AB Double Beam Atomic Absorption Spectrophotometer, including computer system, instrument software and all shipping charges (US & Canada only).

\$6,500.00

Features Include:

- **Automatic wavelength and slit setting.** The wavelength and bandwidth are stored with the application and set up automatically.
The large, self-calibrating monochromator has been specifically designed to provide the high light throughput and stability needed for atomic absorption. Spectral bandwidth is continuously adjustable between 0.2 and 2nm and, for furnace work; reduced slit height is available with all slit widths. For convenience, the wavelength, slit width and slit height are set automatically. A wide-range photomultiplier tube covers the full wavelength range.
- **Automatic Flame Control**
The 932AB utilizes automatic flame control for added safety and convenience. This system is interlocked to gas supplies, burner type, flame detector, mains power and liquid trap. It provides a programmed ignition and shutdown sequence - if nitrous oxide-acetylene is selected, an air-acetylene flame is first established and then the acetylene flow is automatically boosted before automatic changeover to the nitrous oxide-acetylene flame.
- **Two lamp supplies**
Dual lamp supply allows one lamp to warm up while the other lamp is in use.
- **True Double Beam stability**
The genuine double beam optical system of the GBC 932 measures the sample and reference signals every mains cycle to give the best correction for lamp noise and the most stable baseline possible.
- **All reflective, sealed optical system**
The 932 uses mirrors throughout the optical system to ensure that correct focus and high-energy throughput are maintained at all wavelengths. To protect the optical surfaces the whole system is sealed against dust and vapor, and additional protection is provided by coating the mirrors with silica.
- **Asymmetric Modulation Reduces Noise**
Asymmetric modulation for double beam instruments is a GBC innovation. Most of the noise in atomic absorption measurement comes from the sample beam. By spending more time measuring the sample beam - twice that of most conventional systems - the GBC 932 reduces noise by up to 40%.
- **Flame Atomization System delivers guaranteed performance**
GBC offers a guarantee of sensitivity and precision for all instrumentation. GBC's guaranteed performance is greater than 0.7 absorbance for 5 mg/L copper with an RSD less than 0.5% for ten 10-second integrations. All materials in contact with the sample have been selected for maximum corrosion resistance. The spray chamber is made of inert polypropylene, while the burner is made entirely of titanium. The nebulizer, which has a platinum-iridium capillary and a titanium venturi, also features an adjustable sample uptake rate, which is essential for optimum performance with refractory elements or organic solvents. The whole flame atomization system is easily removed for cleaning or for changeover to graphite furnace.



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- **ULTRA-PULSE background correction**

Ultra-Pulse background corrector takes 200 (50 Hz) or 240 (60 Hz) corrected sample readings per second for correction of fast background peaks. With approximately 1 ms between pulses and interpolation between measurements, best possible accuracy is assured. High intensity, long life deuterium arc lamp provides 185-425nm correction range. Corrects to 2.5 total absorbance.

Software

The GBC 932 Atomic Absorption Spectrophotometer software utilized a Microsoft Windows® operating platform for true multi-tasking.

- **Data Processing**

Provides analysis by atomic absorption or emission. Absorbance range to 3.0 Abs. Measurement by integration, running mean, peak height or peak area. Mean and RSD of up to 50 replicate readings. Calibration using up to 10 standards. Linear least squares curve correction, linear least squares through zero curve correction, exact fit curve correction, concentration least squares (polynomial) curve correction, standard additions or bracketing standards. Programmable re-slope using a single standard or complete recalibration, rate settable by either time or frequency of samples. Password protected result editing to remove unwanted readings on either samples or standards. Weight and dilution correction. All editing available either during the run or post run.

- **Graphics**

High resolution color display of atomic absorbance, background signals, furnace temperature programs, calibration curves, peaking meters and wavelength scans. Graphics can be displayed in a number of different modes including overlaying non-successive peaks. Selectable absorbance scale for traces. Graphics cursor can be used to obtain numerical information from graphics traces. Zoom function allows graphics traces to be expanded.

- **Data Storage**

Storage is provided for all data including the linking of the graphics trace to the results. Also stored are the methods, sample labels, sample sequences, method sequences, weights and dilutions, report headers and footers, calibrations and the results.

- **Report Generation**

Reports may be printed from all stored results in either single element or multi-element format with results being combined from different runs and different measurement techniques. All operating parameters, calibration graphs, headings, footers, method notes, sample labels, result statistics and weight and dilution factors may be printed. Software supports a full range of printers.

- **Quality Control Protocols**

Complete range of quality control functions available, including check samples, spike recovery, upper and lower QC limits, and calibration correctness. Checks can be carried at predetermined intervals based on time or number of samples analyzed. Alternately, checks can be carried out randomly. All checks have operator settable failure limits and failure actions, and flagging for all failed tests.

Includes 90-day warranty

Please Note:

Many other options are available for use with this GBC system, including:

- Standard hollow cathode lamps
- Nitrous-Oxide/Acetylene Burner
- Atom trap (improves flame sensitivity)
- Flame Autosampler
- Graphite Furnace System with Autosampler
- Hydride Generator
- Mercury Concentrator



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