

Buck Scientifics 210VGP Atomic Absorption Spectrophotometer is the culmination of more than 20 years success and experience as a manufacturer of spectroscopy instruments. The 210VGP is a powerful, compact and cost effective solution to all atomic analyses. It has been designed to meet the performance and flexibility your laboratory requires now and in the future.

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Features	Options and Accessories
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The 210VGP is shipped ready for use. All operating conditions are preloaded in the internal computer, including lamp settings, secondary wavelengths, and alternate methods of analysis for over 60 elements by flame, furnace, or hydride techniques. The three lamp turret has individual controls for alignment and stay warm/operating facilities for each lamp. Direct report generation to a printer or data linking to the optional A Analyze software package is easily done using the parallel and RS232C ports.

## Analytical Performance :

The Buck 210VGP is a high energy, microprocessor controlled single beam atomic absorption spectrophotometer. Solid state electronics and simple optics provide the basis for our superior stability and sensitivity. The Ebert mount monochromator and user-selectable bandwidth give the system maximum flexibility.

Our short-path dynamic nebulizer/burner configuration is highly efficient. An inert needle, precisely positioned in a high flow venturi, delivers sample to the corrosion proof impact bead. This results in a tremendously high nebulization effect for all types of sample matrices.

## **On-board Microprocessing :**

The completely integrated firmware found in the Buck 210VGP gives absolute control of operation and data manipulation. From setting lamp parameters to optimizing calibration curves and furnace temperature/time programs; the internal firmware provides access to all of the system settings.

## Cost Effectiveness :

The 210VGP is designed for minimal maintenance. The burner assembly is easily accessible for quick cleaning. The microprocessor uses state-of-the-art components and is machine assembled for quality and reliability. With the best performance-to-price ratio in the market, the 210VGP is truly an affordable instrument that will maximize your return on investment.

## **Optical System :**

Buck Scientific's Stable Beam System creates an optimum optical alignment. We have the lowest number of energy reducing optics (no energy wasting beam splitters) for the greatest throughput of sample energy.

### Background Correction :

The Model 210VGP offers two exceptional background correction systems; a unique, in-line D2 system and Variable Giant Pulse (VGP) correction.

#### **Deuterium (D2) Continuum Lamp Correction :**

A D2 lamp emits radiation from the far-UV region (< 190 nm through approximately 350 nm). With our proprietary in-line system, the D2 emission corresponds precisely with the spectrum of the analyte. Using modulated signals, the absorbance of analyte and background interferences are ratioed resulting in a clean, unbiased absorbance signal.

## Variable Giant Pulse (VGP) Correction :

Hollow cathode lamps normally operate at currents of 3-15 mA. If the applied power is raised to several hundred mA, they exhibit a phenomenon called self-reversal. This giant pulse of current changes the nature of the analyte absorption line so it will only measure the background absorbance. Like D2 correction, the background absorbance is subtracted from the total signal to give the corrected sample reading. The VGP system removes interferences for elements outside the normal D2-UV region. Bucks unique internal software allows the user to vary both modes of the background correction to optimize the analysis for selected elements.

# **Options and Accessories for 210VGP AA Spectrophotometer**

### Model 420 Continuous Flow Hydride

The Model 420 hydride accessory provides virtually instant access to PPT detect ability for hydride metals in a semi-automated, continuous flow system. Low level determinations of As, Se, Sb, Bi, Te, Sn, and Ge are easily performed. The cold vapor mercury model achieves trace level analysis.

### Model 220AS Furnace Auto sampler

Complete system automation can be achieved using the Model 220AS Auto sampler. This fully programmable, random access system provides 40 sample cups and eight calibration/QC cups. It can also perform automatic matrix modifier additions and sample dilutions. Sample cups can be identified in the built-in table, and method development time can be reduced substantially.

### Model 240 Flame Auto sampler

To enhance laboratory productivity, this 150 position auto sampler features a fast access rate for unattended operation. Users can program various dilution and sample volumes with automated spike addition. A high quality coating resists acids and bases. Full random access allows for complete flexibility.

### AAnalyze Data Acquisition Software

Provides automated data collection via RS232C, conforming to all EPA protocols. Data handling capabilities include auto calibration, spike recoveries, drift corrections, and QC charting. Calibrations are performed using linear or polynomial regressions in a Windows-based, easy to use format. Full report generation with calibration curves and QC chart printouts as well.

### AA Accessories

Buck Scientific offers high quality hollow cathode lamps, and aqueous and organic standard solutions. For furnace operation, we offer matrix modifiers and buffers, plus three styles of graphite tubes. Buck has all the accessories and supplies needed for atomic absorption spectroscopy.



