

# Model 322-Compact Lab GC

## INTRODUCTION-

Process Analyzers recently acquired HNU's technology that included Laboratory Instruments. HNU introduced the first commercial photoionization based instrumentation. More than 15,000 PIDs have been sold worldwide. Many United States Environmental Protection Agency and Occupational Safety & Health Administration (OSHA) methods based on HNU instruments have been published in the Federal Register.

## DESCRIPTION OF MODEL 322

The HNU Model 322 Compact Gas Chromatograph (GC) is a PC Controlled GC designed for chromatographic separation, identification, and quantitation of chemical components in gas or liquid samples. The Model 322 provides analytical capabilities unmatched by any other compact GC. The Model 322 dual-detector capability combined with its isothermal or temperature programmed oven, choice of injectors, and the ability to accommodate packed or capillary columns provides exceptional stability and flexibility for a wide range of environmental, laboratory, and mobile lab applications. There are six detectors to choose from: PID, FID, TCD, TCD, Far UV absorbance (FUV), and the FPD for P & S. The Model 322 provides the ability to generate laboratory quality results in a compact and reliable instrument. A photo is shown below:



## PEAKWORKS FOR WINDOWS SOFTWARE-

The GC 322 is operated from an external PC (not included) with a USB 2.0 serial port using Peakworks™ for Windows® software and a USB interface. The added flexibility of automatic data collection, integration, and storage within a personal computer, reintegration, peak overlays, scale expansion ...and many more features. All data and methods can be stored on the hard drive or floppy. The data can be transferred to spreadsheet or database programs for report generation or to a printer. Chromatograms can be saved in RTF and pasted into a report. Minimum computer requirements for Peakworks include an IBM compatible Pentium PC with Windows 95, 98, 2000 or NT operating system, 16MB RAM, and a color VGA monitor. A PID/ECD run is shown below:



## Applications

- **Industrial hygiene Labs** -bring GC to problem area
- **Environmental Labs**-for lower volume, low cost applications
- **Emergency response** -for field identification of toxic chemicals in real time
- **Process Control**—troubleshoot process areas
- **Pilot plants**- quickly setup methods in a minimum of space
- **QC**- trace solvents, -headspace for polymers, food, soil and water samples
- **Measurements in the field/mobile labs**- Hydrocarbons, inorganic compounds, fixed gases, transformer gases, BTU analysis,

## Model 322 GC

**FEATURES**

**Six detectors** (PID, FID, CGD, TCD, FPD, FUV), temperature programming, Peakworks for Windows SW, optional concentrator and sampling system

**Peakworks software**- with USB connection for GC control, timed events (3), remote start, programmable alarms (2) and data storage

**Easy to use**- Peakworks Windows software with Windows® 95, 98, 2000, or NT based operating systems- Requires PC with USB 2.0

**Controls**

Oven & detector temperature, temperature programming, amplifier sensitivity, analysis time, & remote start under PC control; parameters can be set on PC using Peakworks™ software

**Options**

- **Purge & trap systems**- consult factory
- Concentrator** for sub ppb ambient or in door air quality measurements- will provide ppt detection limits for PID; sub ppb levels for FID and ECD, and low or sub ppb levels for the FID
- Valving**-automated 6 or 10 port valves
- Special Applications**-turnkey application

**Detector Characteristics**

Type of Detector	Response	Range/Linearity
PID	Organic; inorg.; selective	2 ppb to ppm; 10 <sup>7</sup>
FID	Organic; selective	100 ppb to ppm; 10 <sup>6</sup>
CGD	org, H2, NH3	250 ppm to 100%
TCD	Organic, fixed gases;	200 ppm to %; 10 <sup>4</sup>
FPD	S or P; selective	ppb to ppm; 10 <sup>3</sup> to 10 <sup>4</sup>
Far UV-	Organic, fixed gases	- sub ppm to %; 10 <sup>4</sup>

**OTHER INSTRUMENTS**

Chromatography instruments include:  
 Add on detectors: PID, FUV, CGD, FPD  
 Portable GC-Model 312  
 PeakWorks for Windows- standalone version

**SPECIFICATIONS FOR THE MODEL GC322**

**DUAL DETECTOR CAPABILITY** PID, FID, Far UV, FPD, & CGD with autoranging amplifiers- any two can be mounted simultaneously

**RANGE** sub ppb to %- depends on detector and options such as concentrator  
**INLET** (optional) heated gas/liquid injector & 6 port gas or liquid sample valve; can be automated

**SAMPLE TYPE** Vapor or liquid sample-heated injector

**OVEN** Isothermal 40-300°C in 1°C increments & temperature programming

**INJECTOR/DETECTOR**- 40-300°C in 1°C increments

**COLUMNS** Packed or capillary

**COMPUTER** Pentium required (not included)external control from PC running Peakworks through the USB 2.0 port

**DIAGNOSTICS** Audible Alarm for cpds over/under set range

**OUTPUTS** 0-1 volt DC, analog ; Serial port, USB 2.0

**INSTRUMENT HOUSING** Normal housing for the GC -NEMA 2

**PHYSICAL DIMENSIONS** H 10.5" X W 9.5" X D 16.0"

**WEIGHT:** 27 lbs

**POWER CONSUMPTION** 60 Watts; 90-220 V

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