

Portable Analyzer Product Line

Measure

VOC's
 ppb, ppm,
 %
 benzene
 1,3 BD
 ETO
 TCE
 PCE
 VCM
 THC
 O₂
 H₂S
 NH₃
 HCl
 HCN
 Cl₂
 H₂
 NO
 NO₂
 SO₂
 CO₂
 CH₄
 Hg
 CO₂
 others:
 Call us

Technologies

GC, Photoionization, Combustible Gas (CG), Thermal Conductivity, UV absorbance, Infrared Absorbance, Electrochemical (>25)



Datalogging and WiFi & Bluetooth

Hydrocarbons, VOCs, LEL, CH₄, CH₂O, C₂H₂, Cl₂, CO, CO₂ Freons, H₂, H₂O, H₂S, HCl,
HCN, ETO, O₃, NO, NH₃, NO₂, PH₃, SiH₄, SO₂,

FIELD PORTABLE ANALYZERS

Model 30 - Economical IR CO₂ -Indoor air quality analyzer for home, school rooms, HVAC check

Parameters: *IR CO₂ only*

Dual Beam IR, 1" display

Range to 5,000 ppm

Diffusion based

Weight- 0.25#

Control by call phone

Model 40-

Parameters: *IR CO₂ only*

Dual Beam IR, 1.5" display

Range to 5,000, 10,000 ppm

Internal Pump- faster response

Weight- 0.30 #

Control by 3 button keypad or call phone

Alarms, RH/T, IP65

Model 45 Improved accuracy

Parameters: *IR CO₂ and optional O₂*

Dual Beam IR, 2" display

Range to 2,000, 5,000 & 10,000 ppm or % CO₂

Internal Pump- faster response

Weight- 0.32 #

Control by 3 button keypad or call phone

Alarms, RH/T, **Optional O₂ or EC sensor. IP65**

Model 60 PID for VOC's in air & water

Parameters: *IR CO₂ and optional O₂*

Dual Beam IR, 2" display

Range 0-5,000 ppm

Internal Pump- 90% response in 1 sec.

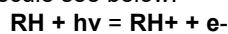
Weight- 1.1 #

Control by 3 button keypad or call phone

Alarms, RH/T, **Optional IR and 1 EC sensor, IP65**

Principle of Operation- Photoionization

The process occurs when a molecule absorbs light of sufficient energy to ionize a molecule see below:



The ultraviolet lamp generates photons that ionize the molecule RH (above) and generates positive ions. An accelerator electrode (positively biased) pushes the ions, to the collector electrode where the current (proportional to concentration) is generated, amplified and sent to the ADC.

Model 30 Basic Economical IR for CO₂



Model 40 Industrial IR for CO₂



Model 45 Industrial IR for CO₂ & O₂



Model 60 PID for VOC's



Principle of Operation-IR

The technique for measuring the concentration depends upon the Lambert Beer Law- $I = I_0 e^{-kx}$
This dual beam sensor consists of a pulsed IR source, a measurement filter, a reference filter and an IR detector (thermopile). Infrared radiation at the 4.3 microns region is absorbed by CO₂ carbon dioxide

Portable GC's (121 & 312)

Model GC 121-Portable GC

Battery operated system (6-8 hours)
Dimensions: 10.75"L x 2.75"W X5" H with handle
Weight: 5# with carrier gas cylinder
Detector- PID, Single Detector only' 3.5" Color display
Detects ppb or ppm levels of Hydrocarbons, inorganic compounds (H₂S, NH₃, PH₃, AsH₃ ,,,), Sulfur compounds, phosphorus compounds, etc.
1-10 compounds, 1,000 chromatograms stored
 WiFi, Bluetooth. connect to cell phone, **Peak Works** lite chromatography software, IP65

Model GC312- Portable GC

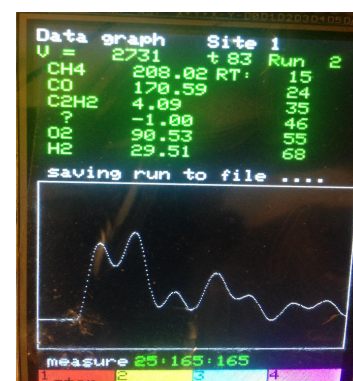
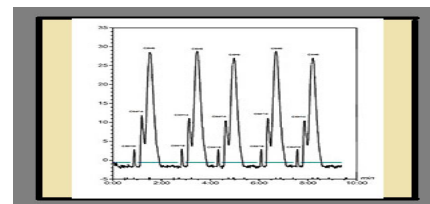
Embedded Intel PC with Window 10 OS, 32 GByte Solid State Drive, Peak Works chromatography software; 10" Color Display
Battery operated system (6-8 hours)
Dimensions: 10.75"L x 2.75"W X5" H with handle
Weight: 5# with carrier gas cylinder
Detector- PID, Single Detector only
Detects ppb or ppm levels of Hydrocarbons, inorganic compounds (H₂S, NH₃, PH₃, AsH₃ ,,,), Sulfur compounds, phosphorus compounds, etc.
1-30 compounds, 10,000 chromatograms stored
 WiFi, Bluetooth, connection to cell phone, IP65

Principle of Operation-Gas Chromatography

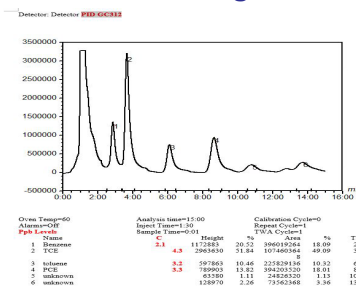
A gas chromatograph consists of the injector (syring or gas sampling valve), the oven with T control, the column and a detector.

A sample (gas or liquid) is injected onto a column (packed or capillary) with a flowing carrier gas (mobile phase) stream. The material in the column can be a solid or a liquid bonded to the inner diameter of the silica capillary column. The sample will be separated (depending on the interaction of the column material) by the mobile phase and oven temperature. The separated peaks will be resolved and detected by a GC detector. The time from injection to max peak is termed the retention time and is used to ID the compound. The peak height or area under the peak is integrated and after calibration, the concentration can be determined.

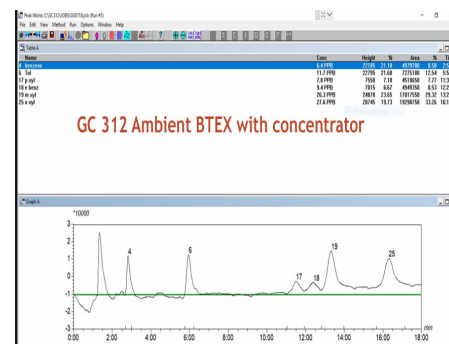
121 Chromatogram & Display



312 Chromatograms



Ambient BTEX with Concentrator



Applications for VOC's, CO₂, CH₄, O₂, EC Sensors

Applications:

PID VOC Measurements

Non-specific- M60 PID- Responds to VOC's & inorganic hydrides

Safety,

Industrial Hygiene surveys.

Accelerants at Arson scenes,

Hazardous waste spills and site

evaluations, transportation,

Total VOC's in Air, Water and Soil

Inorganic hydrides: H₂S, NH₃, PH₃, AsH₃

Semiconductor plant leaks of PH₃, AsH₃

Mercaptans in air and water

Mercury in air or water

Headspace- VOCs in soil or water

Quality control- residual monomer in resins, residual solvents in paper or food, testing gas masks, residual gases in cylinders

Emergency response- spills from trucks & trains

Fugitive emissions- leak detection

Arson investigations- find trace accelerants

Confined space entry- health & safety

PID GC Measurements

Specific Detection- of VOC's & inorganic hydrides (H₂S, H₂Se, NH₃, AsH₃, PH₃) at ppm to ppb levels. We do have concentrators also that will improve detection limits by **10 to 100 fold**

Applications:

IR-CO₂ Measurements

- Air Quality Monitoring in:
 - Offices, homes, schools buildings,
 - Greenhouses & hydroponic gardeners
 - Breweries & Wineries
 - Marijuana growers greenhouses
 - CO₂ separation plants
 - Storage safety where CO₂ tanks are located

- Safety monitoring for CO₂ & O₂ -PEL
- M45-W Available in IP65 version
- CO₂ Analyzers are available for CO₂ levels
- Modified Atmosphere Packaging (MAP)
- Biotech- monitoring of pilot plants
- M 45 is available as a Wall mount IP66 enclosure

List of Electrochemical Sensors

AsH₃, B₂H₆, CO, Cl₂, ClO₂, EtO, F₂, Formaldehyde, H₂, HCl, HCN, HF, H₂S, H₂Se, Mercaptans, NH₃, NO, NO₂, O₂, Phosgene, PH₃, SO₂, SiH₄, THT

For a complete specs on EC's contact us



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