

## *Heated portable FID Volatil Organic Compounds Analyzer Model GRAPHITE 52M*

**2 different  
versions to meet your  
analytical requirements**



**GRAPHITE 52M-S**  
Total VOC monitoring



**QAL 1**  
EN 14181

**GRAPHITE 52M-D**  
Simultaneous Total VOC  
and methane monitoring

### **Reduced maintenance**

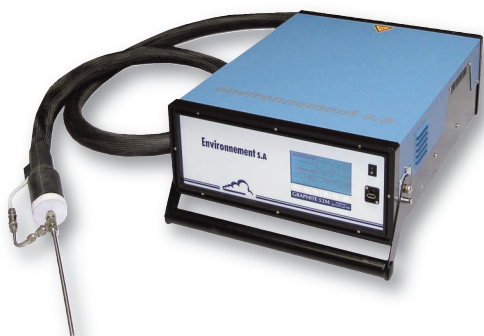
- Easy access to all components
- Traceability of parts and consumables
- Remote maintenance & troubleshooting

### **Main applications:**

- Laboratories and research centers
- Process control in all fields
- Combustion monitoring in all fields
- Standard Reference Method for Emission monitoring
- Engine exhaust gas analysis

### **Exclusive features:**

- Complies with EN 12619 & 13 526 standards
- Burners placed in a heated furnace, up to 191°C allowing measurement of high concentrations of heavy hydrocarbons
- Built-in heated sampling pump
- Removable transportation handle
- Ultra short response time
- Graphic Liquid Crystal Display (LCD)
- Interactive menu driven software with enhanced speed display
- Real time calibration graph
- User adjustable response time and averaging time
- Built-in storage of 2 months 1/4 h average data (up to 1 year with the optional memory extension)
- Ethernet and USB ports for data retrieval and software upgrade



Portable GRAPHITE 52M  
with sampling line



# PORTABLE GRAPHITE 52M

## Heated FID Volatil Organic Compounds Portable Analyzer

### Specifications:

- Ranges: 0-10/100/1,000/10,000 ppm (0-30/300/3,000/30,000 ppm upon request)
- Accuracy: < 1% of reading between 15% and 100% of Full Scale (F.S.)
- Noise: < 0.5% of F.S.
- Lower detectable limit: 0.05 ppm on the 10 ppm range
- Response time: < 2 sec (T90)
- Zero and span drifts: < 1% / 24h
- Linearity: < 1% for a concentration between 15% and 100% of the range
- Heated block temperature: up to 191 °C
- Converter efficiency rate: > 99%
- Sample flow rate: 0.7 to 2 l/min
- Housing: Rack 19" - 4U
- Dimensions: 436 x 570 x 185 mm (W x D x H)
- Weight: 18 kg approx
- Power supply: 230 VAC, 50 Hz or 115 VAC, 60 Hz
- Power consumption: 500 VA during start up
- Operating temperature: +5 to +40 °C
- Gas fittings: stainless steel fast connectors
- Required particulate filtration: < 2µm

### Utilities:

- Span gas: C<sub>3</sub>H<sub>8</sub> or CH<sub>4</sub>
- Burner supply: H<sub>2</sub>/He
- Comburant: air (supplied by built-in generator)

### Communication:

- 1 Ethernet and 1USB ports
- 1 serial ports RS 232 or RS 422
- AK communication protocol

### Options & Accessories:

- Internal zero and burner air scrubber
- Built-in air generator
- Heated sampling line with 2 µm SS filter (temperature regulation up to 5m of line)
- Direct span gas injection on top of the sampling probe
- Transportation case
- Memory extension
- Power supply: 115 VAC, 60 Hz
- ESTEL electronic board (1 or 2) with:
  - 4 independent analog inputs
  - 4 independent analog outputs
  - 4 remote control inputs
  - 6 dry contacts outputs
- SOREL electronic board with:
  - 4 dry contacts outputs
  - 4 dry contacts inputs

### Operating principle:

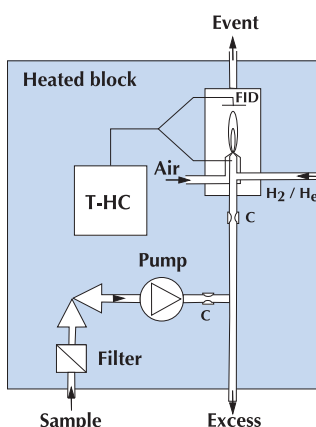
The gas to be analyzed is sampled with a heated pump and led to the burner supplied with a H<sub>2</sub>/He mixture and air filtered and purified through an internal generator. The separation of the hydrocarbon molecules at high temperature in the cone of the flame provides a ionizing current, the strength of which is directly proportional to the number of atoms of carbons of the analyzed mixture.

This signal is electronically processed to obtain an accurate measurement of the VOC concentration.

### Description:

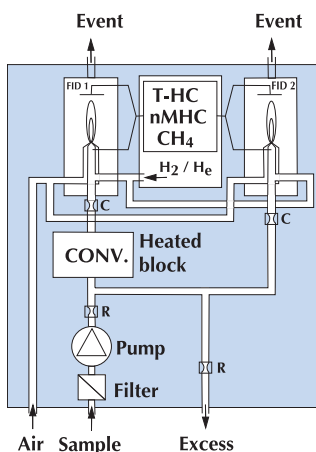
All elements in contact with the sample located upstream the detector are heated among which the pump, the ionization detector, filters, tubes and capillaries. The geometry of the burner has been designed to obtain an output signal linear whatever the concentration measured for any measurement scale.

The design of the burner is the of "jet" effect type that eliminates the cross sensitivity due to oxygen.



#### Total VOC monitoring: GRAPHITE 52M-S

Equipped with one burner placed in a heated block, model GRAPHITE 52M-S allows continuous and accurate Total VOC monitoring.



#### Simultaneous monitoring of Total VOC and Methane: GRAPHITE 52M-D

Equipped with two burners and a catalyst, model GRAPHITE 52M-D allows the automatic or manual simultaneous measurement of the sample Total VOC that are not oxidized and the methane on the oxidized sample. Model GRAPHITE 52M-D is ideally suitable to follow transient phenomena during which simultaneous evolution of non methane hydrocarbons and methane values are to be controlled.



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