

## PCF ELETTRONICA Srl

### PCF YOUR PARTNER FOR THE COV MONITORING

#### MOD. 530/NR/PID/BTEX

BTEX, AROMATIC HYDROCARBON ANALYZER (BTEX = Benzene, Toluene, Ethyl-Benzene and Xylenes)

- PID Flame Ionisation Micro Detector.
- The analysis is displayed in real time on the screen.
- Integrated auto diagnostic program.
- Easily integrated in automatic systems.

#### PID DETECTOR

The PID detector is specific for unsaturated organic compounds, particularly aromatics. Unlike the FID it is more sensitive and specific, but it is much more unstable, so it requires frequent calibrations and the replacement of the UV source every 18 months.

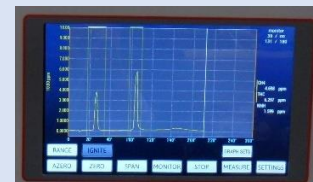
The sample is passed in an environment flooded with UV light. The organic carbon contained in the measurement gas is split into carbon ions and hydrogen ions.

The H ions bind to the oxygen in the air generating water, while the C ions that are formed are proportional to the concentration of unsaturated hydrocarbons present; moving in an electrostatic field (anode and cathode) they are attracted to one of the polarities, triggering an ionic current proportional to the concentration of the sample.

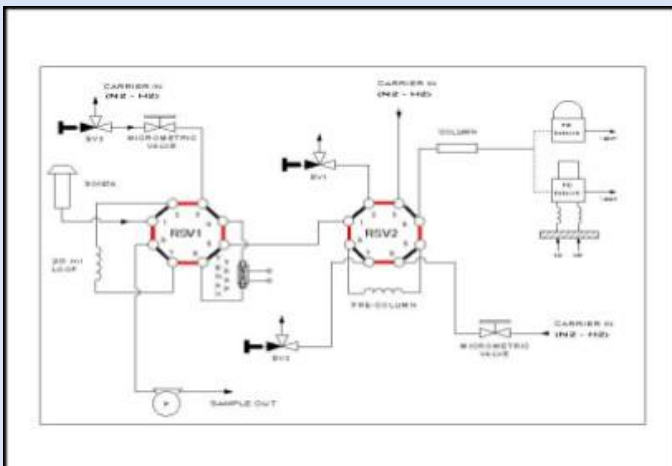
The PID detector is fitted with BTEX Mod. 530/NR/ PID, a fully automatic industrial rack gas chromatograph (19 ") for the measurement of traces of Benzene, Toluene, Ethyl-Benzene and Xylenes (or other compounds of the family of single ring aromatic compounds).



Pannello frontale del Mod. 530/NR/BTEX



Display con analisi in corso



#### WORKING PRINCIPLE

The analysis includes an entrapment stage (Tenax GR) of the aromatic compounds contained in predetermined quantities of air and subsequently desorbed and separated in a capillary type column (wide bore, 0.5 mm i.d., internally covered inside with DB-WA ID 53 Film).

a Specially developed firmware handles sequences, peak integration, concentration calculations and final data management. at the end of each measurement cycle, via RS 232.

The data can be transferred to a PC for further processing and reports. The same data is available in analog output for each parameter.

## TECHNICAL SPECIFICATIONS

The below indicated technical specifications were experimentally obtained.

- Measuring range	: 0-1.000 ppbV Benzene
- Measuring scales	: 6 possible scales starting from 0-5 ppbV Benzene. For instance: 0-5/10/20/50/100/200.
- Measuring units	: ppmb (or $\mu\text{g}/\text{m}^3$ )
- Background noise	: < 0,05 $\mu\text{g}/\text{m}^3$ Benzene.
- Lower Detection Limit (LDL)	: $\pm 0,1 \mu\text{g}/\text{m}^3$ Benzene.
- Zero signal variation VZ12 (12 hours)	: $\pm 0,2 \mu\text{g}/\text{m}^3$ Benzene.
- Zero signal variation VZ24 (24 hours)	: $\pm 0,4 \mu\text{g}/\text{m}^3$ Benzene.
- Measured signal variation VM20	: $\pm 0,2 \mu\text{g}/\text{m}^3$ Benzene.
- Measured signal variation VM80	: $\pm 0,4 \mu\text{g}/\text{m}^3$ Benzene.
- Precision at 20% of the range P20	: $\pm 0,2 \mu\text{g}/\text{m}^3$ Benzene.
- Precision at 80% of the range P80	: $\pm 0,4 \mu\text{g}/\text{m}^3$ Benzene.
- Measuring cycle	: 15 minutes (may be reduced).
- Response time	: 15 minutes (may be reduced).
- Linearity	: better than 1 % of full scale deflection (f.s.d.).
- Sample flow rate	: 500 ml/min.
- Working temperature (suggested)	: 0 – 40 °C.
- Display	: 640 x 200 pixel colour LCD graphic display; touch screen with analysis displayed in real time.
- Analogue Output	
Benzene	: 0-10 Vdc/4-20 mA.
Toluene	: 0-10 Vdc/4-20 mA.
Ethyl-Benzene	: 0-10 Vdc/4-20 mA.
Xylenes	: 0-10 Vdc/4-20 mA.
- Serial Output	: RS 232 (9 pin connector).
- ZERO drift	: Automatically compensated.
- Zero/Span, check/calibration	: From front panel or remote control.
- Services	
Hydrogen (H <sub>2</sub> )	: 30 ml/min.
FID Air	: 300 ml/min.
Nitrogen (N <sub>2</sub> )	: 30 ml/min.
Service Air	: 4.5 Bar (63 psi).
- Suggested calibration gas cylinders	: 60-80% of the selected scale.
- Dimensions	: 480x250x560 mm (19"x10"x22", WxHxD), 5U.
- Weight	: 20 Kg.
- Power Supply (to be specified in order)	: 230/110 Vac 50/60 Hz.
- Consumption	: 500 VA.

## CODICE

041-1001  
041-1002  
048-0001  
052-1001  
052-1002  
041-1011  
041-1021  
041-1022

## DESCRIPTION

Mod. 530/NR/FID 220 Vac 50 Hz BTEX  
Mod. 530/NR/FID 110 Vac 50 Hz BTEX  
Mod. 9588 ultrapure air generator  
Hydrogen generator  
Nitrogen generator  
Calibration gas cylinder, 10 l with pressure reducer  
Expendables kit  
Spare parts kit