

# PCF ELETTRONICA S.R.L.

## AROMATIC HYDROCARBON GAS CHROMATOGRAPHIC ANALYSER BTEX MOD. 530

FOR CONTINUOUS AMBIENT AIR MONITORING

### FID-PID DETECTOR

FID/PID detector is a heated carbon atoms counter. Electrical charges in the detector generated by oxidation of Cx to CO (FID) or by UV light (PID) are proportional to carbon content in the sample. The charges are collected by two polarised electrodes and converted by electrical circuits into an electronic signal. The actual concentration is computed out of calibration by traceable gas mixture.

### DESCRIPTION

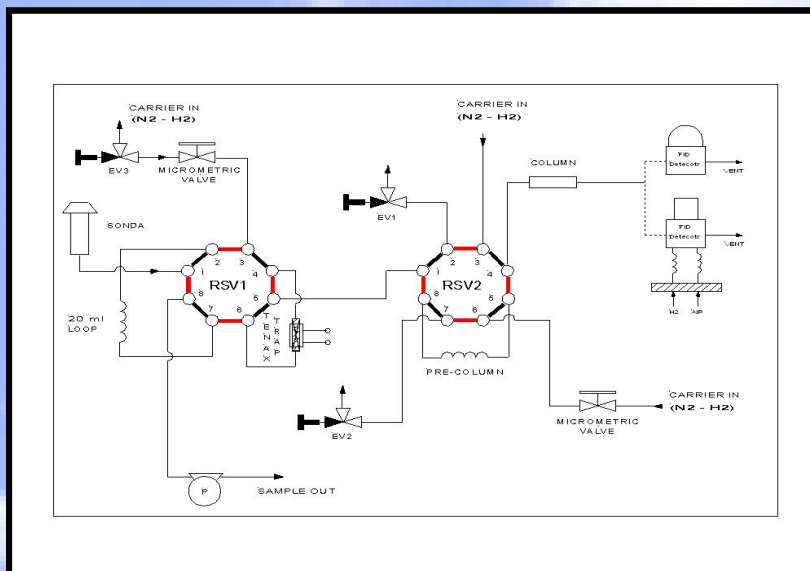
PCF's BTEX Mod. 529 is a rack mounted fully automatic gas chromatograph intended for continuous monitoring of Benzene, Toluene, Ethylbenzene and Xylenes in ambient air at trace level.

Ambient air is sucked through particulate filter and sampled in a fixed air loop (100 ml.). By rotation of ten port valve sampled air is passed in a proprietary trap filled with TENAX GR at room temperature. Trap is then heated up (purge and trap) and, through a second ten port valve, absorbed compounds injected into 1mm. GC capillary type column (WIDE BORE, 0.5 MM i.d., covered with DB-WA ID 53 Film). The compounds separated by capillary columns are detected by proprietary micro FID/PID, the analysis, in different model version, can be stopped at the analysis of Benzene and Toluene.

A special industrial software package has been developed to manage sequences, integrate peak areas, calculate actual concentration values and does data reporting and storage.

At the end of each cycle, via RS 232, data may be transferred to PC for further data and instrument status management and reporting.

- **Highly sensitive compact BTEX analyser**
- **Proprietary micro FID/PID detector**
- **Chromatogram available on display**
- **Suitable for integration in AQMSs**
- **Rack mounted, 5U**



The instrument is suitable to be installed in existing automatic monitoring stations as well as integrated in air quality monitoring networks.

Via its built analogue outputs the monitor can be easily connected to commercial data logger and/or digital recorders.

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## TECHNICAL SPECIFICATIONS (Benzene reference)

- Sampled volume : 10-100 ml of air
- Detector : proprietary FID/PID ( Flame or Photo Ionisation Detector)
- Measuring signal : direct or corrected for calibration values
- Ranges : 0-100  $\mu\text{g}/\text{Nm}^3$ , 0-500  $\mu\text{g}/\text{Nm}^3$  0 and -1000  $\mu\text{g}/\text{Nm}^3$
- Background noise :  $\leq 0.05 \mu\text{g}/\text{Nm}^3$
- Lower Detectable Limit (LDL) :  $0.1 \mu\text{g}/\text{Nm}^3$
- Interference equiv. :  $< 1 \mu\text{g}/\text{Nm}^3$
- Zero drift (24 hrs) : corrected automatically at every cycle
- Span drift (24 hours) :  $\leq 1 \mu\text{g}/\text{Nm}^3$
- Measuring cycle : 15 minutes
- Response time : 15 minutes
- Linearity : better than 1% full scale
- Precision :  $\pm 0.5 \mu\text{g}/\text{Nm}^3$  Benzene equiv.
- Sample flow rate : 500 ml/min (not related to measurement)
- Instrument configuration : Via key board on front panel
- Operating temperature : 0-40 °C
- Display : 640 x 200 pixel LCD colour graphic display (touch screen available)
- Analogue outputs : 0-1/ Vdc and 4-20 mA for each component
- Digital I/O : 10 pin plug
- Serial connection : RS 232
- Services (FID)
  - Hydrogen : 30 ml/min.
  - Pure air : 300 ml/min.
  - Service air : 4.5 Bar (63 psi)
  - Carrier gas : 10 ml/min nitrogen
- Mounting : 19" rack, 5 units
- Dimensions : 480x250x560 mm (19"x8"x22", WxHxD)
- Weight : 15 Kg
- Power supply : 230/110 Vac, 50/60 Hz to be specified in order
- Power consumption : 650 W in the heating up mode, 250 W in the working mode
- Calibration : via calibration loop from gas cylinder, multipoint calibrator or benzene Permeation tube.
- Suggested calibration mixture : 100 ppb of Benzene, Toluene and p-Xylene in nitrogen
- Pneumatic connections : 1/4", 4/6 and 1/2 mm diameter plumbing

### How to order

CODE NUMBER	DESCRIPTION
041-1001	BTEX Mod. 530, aromatic compound analyser, 220 Vac 50 Hz
041-1002	BTEX Mod. 530, aromatic compound analyser, 110 Vac 60 Hz
048-0001	Mod. 9588 ultra pure air generator
052-1001	Hydrogen generator
052-1002	Nitrogen generator
041-1011	Calibration gas cylinder, 10 l with pressure reducer
041-1021	Expendables kit
041-1022	Spare parts kit

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