

## PCF ELETTRONICA Srl

### PCF YOUR PARTNER IN VOC MONITORING

#### MOD. 529/NR/NMH

REACTIVE HC, NMH AND VOC MONITORING ANALYSER

- FID Flame Ionization Detector.
- Analysis progress shown on the display.
- Integrated auto diagnostic system.

#### FID DETECTOR

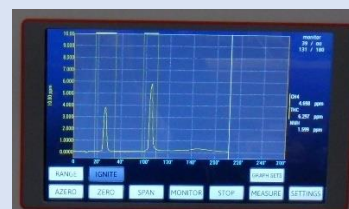
The FID detector is a 'carbon atom counter'.

The sample is sent to a micro flame fed with hydrogen and air. The organic carbon contained in the measurement gas is split into carbon ions and hydrogen ions.

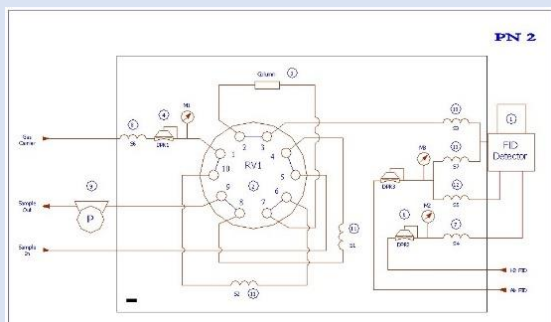
The H ions bind to the oxygen in the air generating water, while the C ions that are formed as a result of the oxidation  $C_x = CO$ , are proportional to the concentration of hydrocarbons present; moving in an electrostatic field (anode and cathode) they are attracted to one of the polarities, triggering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



Mod. 529/NR/NMH Front Pan



Video Display (details)



#### WORKING PRINCIPLE

The automatic PCF Elettronica analyzer Mod. 529 /NR/NMH performs the continuous analysis of the reactive HC by FID detector and GC separation. A pump downstream of the analyzer fills a capillary with a known volume of 0.6 cc. which is brought to atmospheric pressure to obtain repeatable sampled volumes, then is introduced into the FID detector, to measure the Methane and the quantity of Total HC (THC = TVOC), following two different injections.

An INTEL industrial microprocessor oversees the management of all the analyzer functions and the processing of the analysis data, including:

- Control of operational parameters and alarms.
- Check that the instrument is fully operational.
- Automatic ignition of the flame.
- Activation of alarms in case of flame extinction or pressure drop in the H<sub>2</sub> circuit.

## TECHNICAL SPECIFICATIONS

All the technical specifications outlined were experimentally obtained.

- Measuring range: 0 – 10.000 ppmV TVOC.
- Programmable measuring scales: 6 scales possible as from 0-5 ppmV VOC.  
E.g. 0-5/10/50/100/500/1,000 ppmV VOC  
ppmV (or mg/m<sup>3</sup>).
- Measuring units :
- Background noise  
R(0) : 0,01 ppmV.  
R (80% f.s.d.) : 0,01 ppmV.
- Lower Detectable Limit (LDL) : 0,02 ppmV.
- Zero signal variation VZ12 (12 hours) : ± 0,01 ppmV.
- Zero signal variation VZ24 (24 hours) : ± 0,02 ppmV.
- Measuring signal variation VM20 : ± 0,01 ppmV.
- Measuring signal variation M80 : ± 0,02 ppmV.
- P20 Precision : ± 0,02 ppmV.
- P80 Precision : ± 0,03 ppmV.
- Measuring cycle : 30 s (shorter if needed).
- Linearity : > 1 % (f.s.d.).
- Sample flow rate : 500 ml/min.
- Working temperature : 0 – 40 °C.
- Display : 640 x 200 pixel LCD color graphic display;  
touch screen with analysis seen in real time.
  
- Analog outputs : 0-10 Vdc/4-20 mA .  
Methane (CH<sub>4</sub>) : 0-10 Vdc/4-20 mA .  
TVOC : 0-10 Vdc/4-20 mA .  
NMH : 0-10 Vdc/4-20 mA .
  
- Serial output : RS 232 (9 pin connector)
- ZERO drift : Automatically compensated
- Zero/Span check : From front panel (or remote contact)
  
- Services : 30 ml/min.  
Hydrogen : 300 ml/min.  
FID Air : 4.5 Bar (63 psi) to be supplied locally.  
Service Air : 3 ppmV CH<sub>4</sub> + 1 ppmV C<sub>3</sub>H<sub>8</sub>, in AIR.
- Suggested calibration gas cylinder : 480x190x560 mm (19"x7.6"x22"), WxHxD.
- Dimensions : 15 Kg.
- Weight : 230/110 Vac, 50/60 Hz.
- Power Supply (specify in order) : max 300 VA.
- Consumption

## CODICE DESCRIZIONE,

- |          |   |
|----------|---|
| 041-0198 | <b>Mod. 529/NR/NMH</b> Total TCOV (THC) Analyser. |
| 052-1001 | Hydrogen Generator.                               |
| 048-0001 | Mod. 9588 UPP Air Generator.                      |
| 041-1023 | Calibration Gas Cylinder.                         |
| 041-1101 | Mod. 529/NR/NMH consumables kit.                  |
| 041-1111 | Mod. 529/NR/NMH Spare Parts kit.                  |