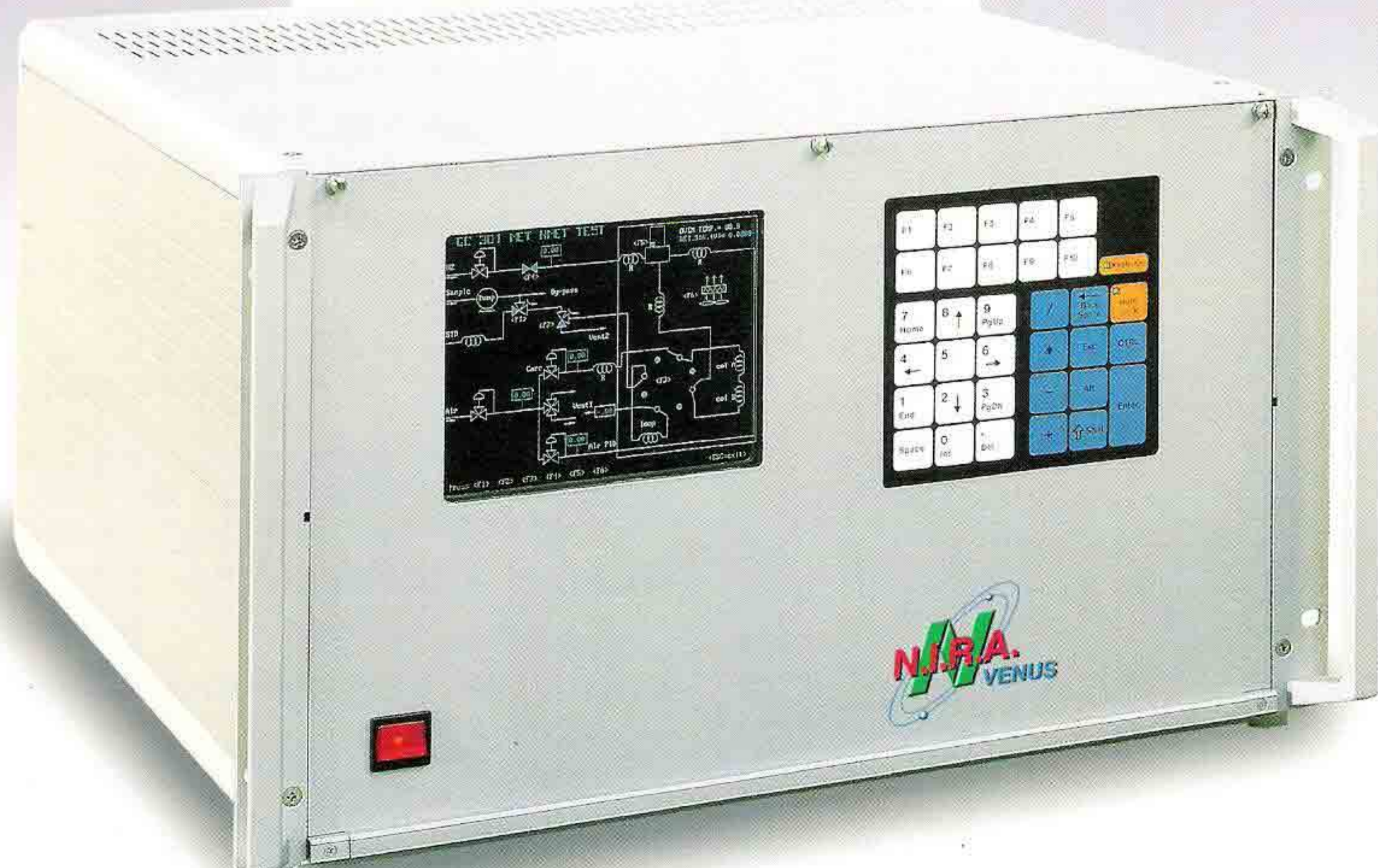


# N.I.R.A.

## VENUS

automatic hydrocarbons analyser CH<sub>4</sub> - NMHC - THC



In chromatographic analysis, it is fundamental the graphic display for discriminating the exact analytical procedure compared with ambient factors such as electric power, gas purity and pressure.

**Concerning the instrumental solution of these problems, N.I.R.A., is introducing a new approach, giving new answers.**

The instrumental solution "PC" embedded and graphic display" is able to supply maximum visibility of the analytical cycle phases, data congruency and immediate identification of possible irregularities.



## Technical details

A new analytical instrumentation line N.I.R.A., is the result of the synergy of two excellent technologies based on tradition account and recent discover.

### “Analytical process” technology:

- Consolidate tradition based on 30 years of experience
- Proved reliability of the components
- Membrane, sampling valve, without moving parts, which guarantees years of free trouble working
- Continuous and automatic check of internal gas pressure and flows
- FID gasproof detectors

### “PC embedded” technology:

- PC core-module
- Graphic view of analytical process by different animation phases
- The continuous evidence and test of operatives parameters
- Elaboration processing higher then traditional solutions for accurate chromatogram integration
- High resolution chromatogram displayed in real time
- Internal database
- Graphic and numeric re-elaboration “off-line”
- Consolidated data record and record of irregularities, if any
- Auto-diagnostic

## Operating principle

The automatic Hydrocarbons Analyser N.I.R.A. mod. VENUS, identifies by only one sampling the Methane and non-Methane Hydrocarbons or their totals, through a chromatographic separation and FID detectors as per present standard.

The membrane sampling valve, draws automatically a known and reproducible volume of sample (0,5 ml) which, taken to atmospheric pressure and operative temperature, passes into a chromatography column.

The Methane, separated from the others components, is sent to Detector FID; after that the backflow of Carrier Gas (back-flush) and the remaining hydrocarbons, taken back to the beginning of column, are sent to detector FID, where they produce a unique signal.

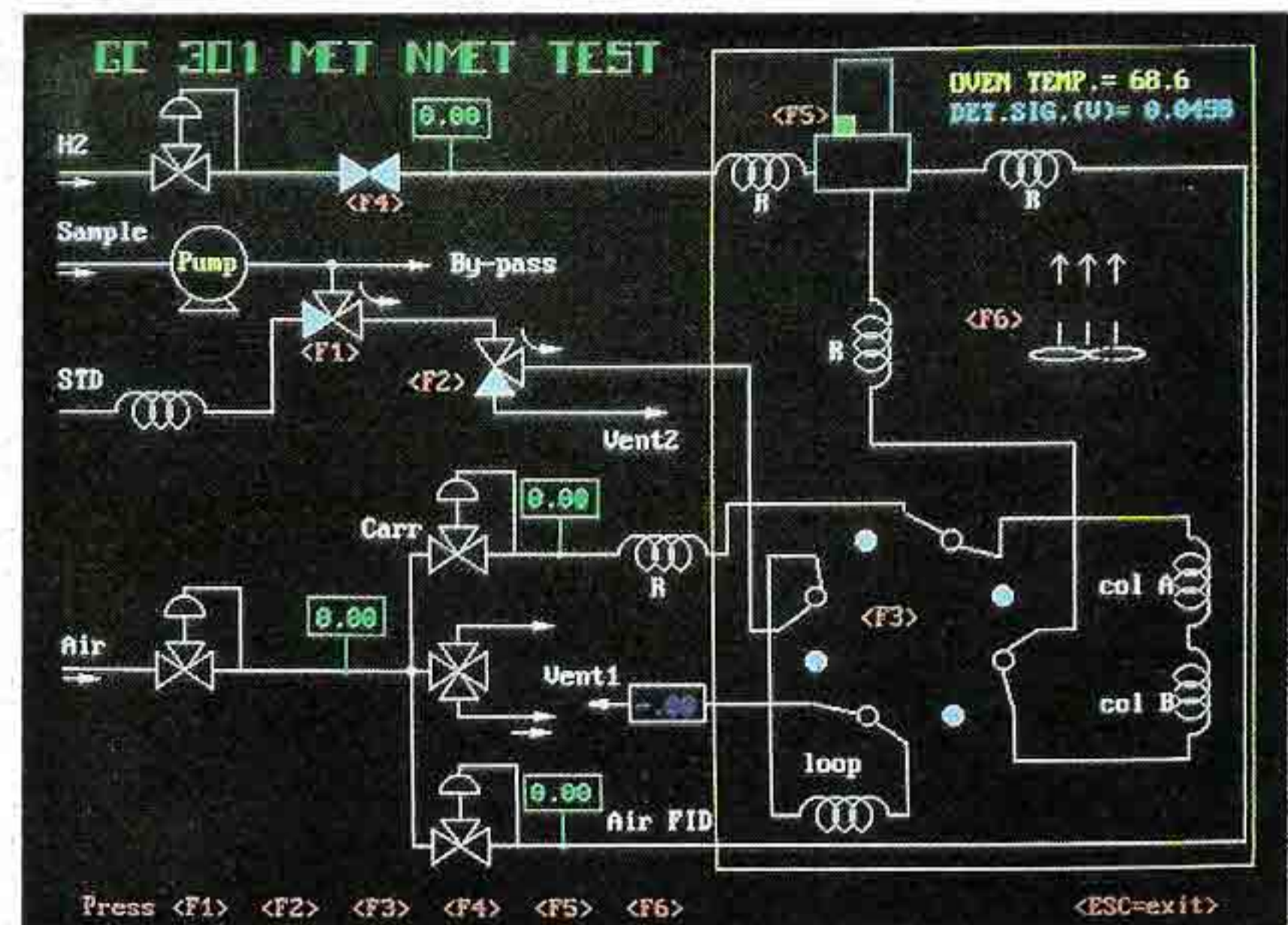
The electronic check of the pressures and Gas flows, ensures high reliability of the measurements.

The PC embedded supervised to all checking phases of analytical cycle, to chromatographic views, to data processing showing on the LDC Colours screen.

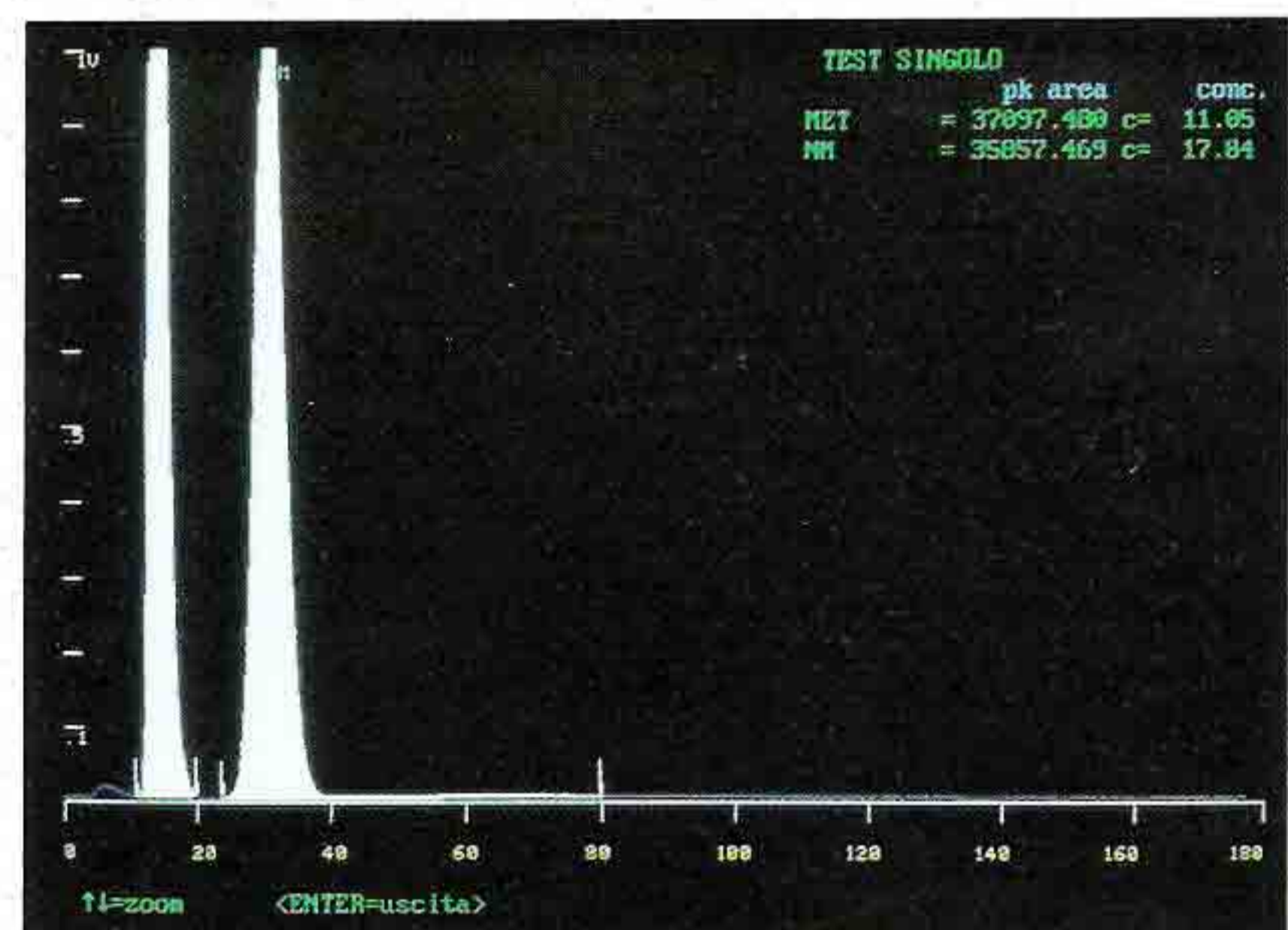


## Electronic processing

- operative sequences
- checking of pressures and gas flows
- calibration and standardisation
- lighting flame and its checking
- strength alarms
- full scale values
- instrumental configuration
- helps on line



a)



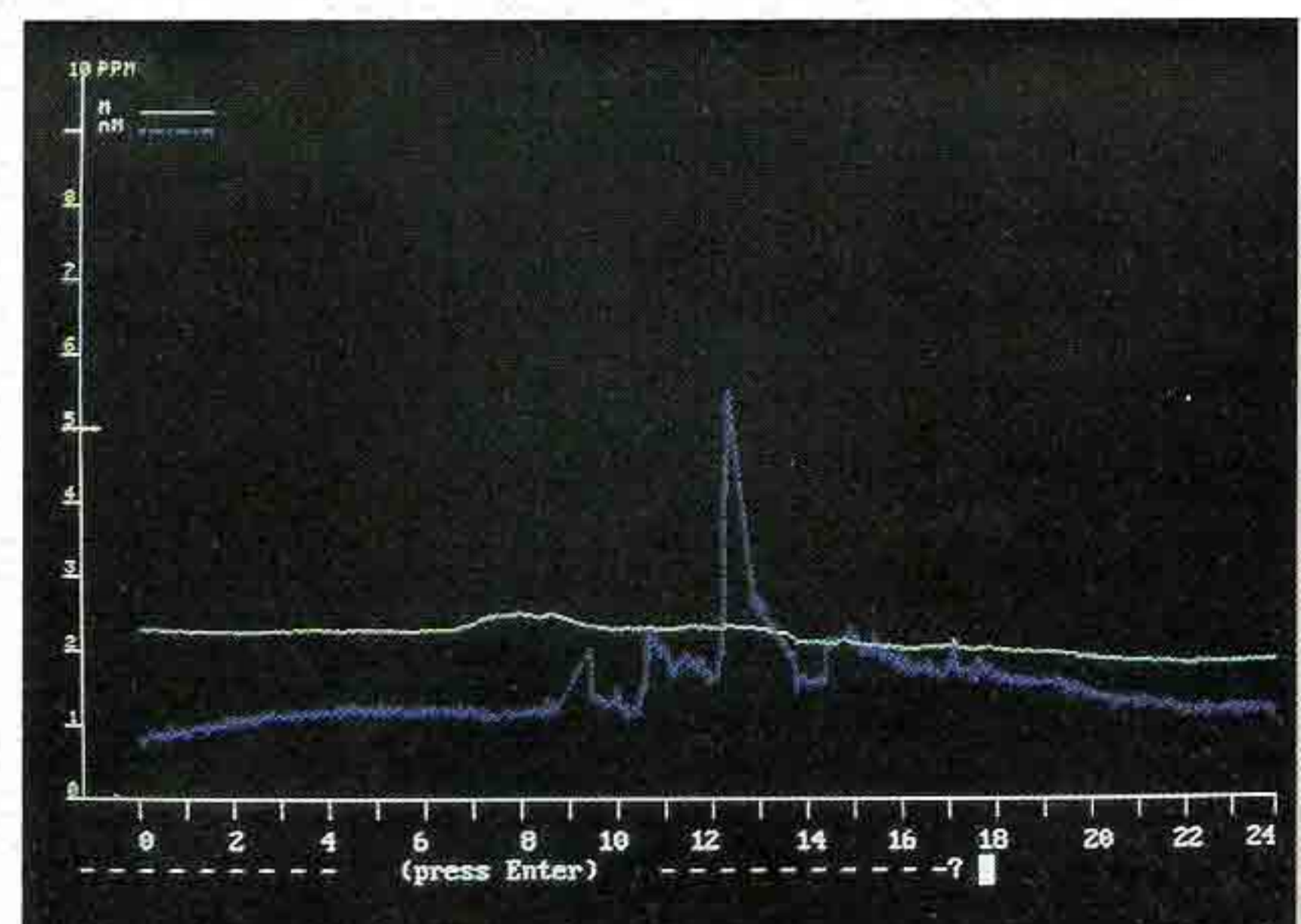
b)

### a) - Diagnostic without manual

Animated visual of the analytical circuit and every internal parameters through transducer of pressure flow-rate temperature.

### b) - Graphic display of chromatogram

Integration peaks and calculation of analytic concentration.



c)

### c) - Measurements trend

Graphic view of the measurements trend and consolidated values.



## Technical specification VENUS

**mod. 301**

MEASUREMENTS RANGE (in automatic system) - (others ranges as option)	0-5; 0-10; 0-100; 0-1000
ANALYTICAL CYCLE TIME	120 sec.
NOISE	< 0,01 ppm
MINIMUM DETECTABLE	< 0,02 ppm
ZERO DRIFT	compensated
24 HOURS SPAN DRIFT ON MORE SENSITIVE RANGE	<1% compensated
ACCURACY	1% F.S.
LINEARITY	1% F.S.
REPEATABILITY	>1% F.S.
ACCURACY AT 20% OF MEASUREMENT RANGE	± 0.02 ppm
ACCURACY AT 80% OF MEASUREMENT RANGE	± 0.03 ppm
HYDROGEN, (PRESSURE DIGITAL READOUTS)	30 cc/min
AIR, (PRESSURE DIGITAL READOUTS)	300 cc/min
SAMPLE, (FLOW DIGITAL READOUTS)	2500 cc/min
DISPLAY	VGA TFT
ANALOG OUTLETS	0-10 V; 4-20 mA
SERIAL OUTLETS (Other as option)	RS-232
WORKING TEMPERATURES	10C° - 40C°
POWER	110/220 VCA - 300 W
DIMENSION cm 48x26x52 (transportable as option)	reak 19"/6 unit
WEIGHT	19 Kg

The instrument needs servo gas, hydrogen and gaschromatographic air; standard bottle



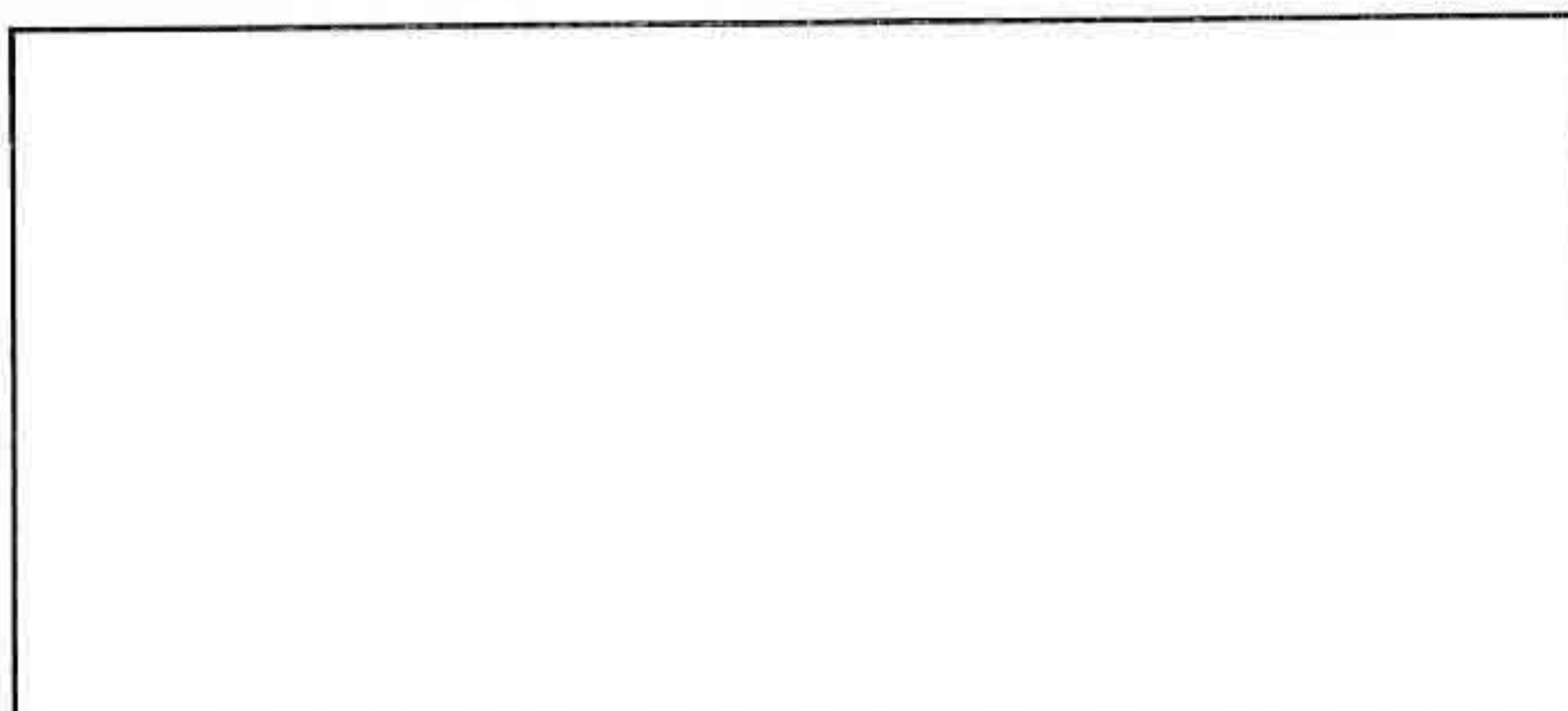
### NEW INSTRUMENTS and RESEARCH for ANALYSIS s.r.l.

Head Office: Via Locatelli, 113 - 20046 Biassono (MI) Italy

Tel.: +39 039.24.97.856 - Fax: +39 039.24.90.049

<http://www.nirainstruments.it>

e-mail: [sales@nirainstruments](mailto:sales@nirainstruments)



Local distributor and service