



## SCORPIO 3001



**Automatic analyser of volatile organic solvents with data management.**

**Monitoring instrument for plant of recovery and reuse of solvents contained in the gaseous emissions coming from the productive cycles.**

**SCORPIO 3001 is a system to control VOCs adsorption-desorption phase and to automate the activated carbon stripping system by inert gas, steam or vacuum. The monitoring, at the**

**entry point of plant, allow the processing yield calculus and the elaborating adsorption isotherms.**

**The system is also suitable for external reactivation of plant monitoring.**

**N.I.R.A. created the first integrated solution "PC-embedded graphic display" able:**

- to offer plant operative conditions on line visibility;
- to permit a significantly costs reductions, lowering the number of regenerative cycles
- to optimise the plant adsorption-desorption phases, reducing maintenance costs
- to put in safety the pollutant emissions
- to file every analytical data and possible irregularities

**SCORPIO 3001 assures:**

- continuous check of VOCs concentration piping to the recovery plant
- continuous check of VOCs concentrations coming out from adsorbers
- automatic activation of regeneration cycle
- automation of alarm systems management
- remote control of analytical system by modem



With the rising cost of solvents, more and more companies decided to start on the way of waste regeneration, by active carbon adsorption and following desorption, possible rectify control and atmospheric emissions monitoring.

#### **Why choose a monitoring regeneration plant?**

- To optimise the adsorption-desorption process
- To permit the calculus of isotherms
- To put in safety the plant
- To monitor the atmospheric emissions level

In each process phase, **SCORPIO 3001** is able to monitor the total volatile organic solvents allowing a continuous check of plant functionality and keeping all the different phases in safety.

#### **Which are the advantages?**

- High energetic saving
- On line visibility of complete productive cycle
- Plant upkeep in absolute operative safety

#### **What about environment?**

With continuous monitoring of atmospheric emissions it is possible to reach a double result:

- to avoid environment pollution which is energetic waste anyway
- to conform with regulations and avoid potential costly fines

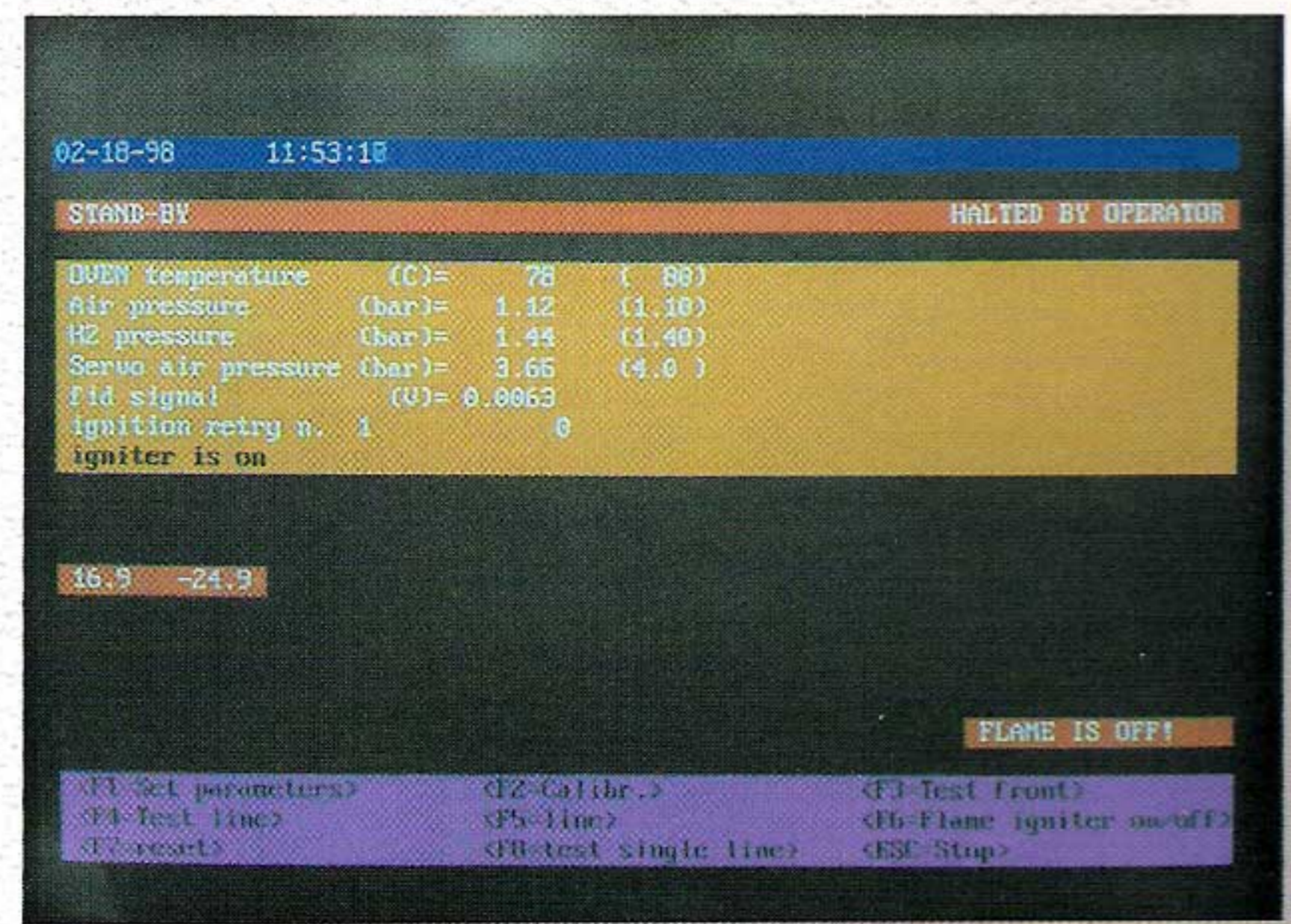
**SCORPIO 3001** is applicable to VOCs control in solvent recovery plant, particularly in the manufacturing sector for small businesses.

**SCORPIO 3001** is the first system with gas chromatographic process technology and PC core-module.

- No catalyst inside, avoiding poisoning phenomena
- Membrane valves guarantees for long term maintenance free
- Utilisation of a unique FID detector required only one calibration
- FID doesn't answer wrongly depending on solvents mixture
- FID has high sensibility without memory effect
- It is not necessary to have complicated systems of moisture elimination
- Direct sampling analysis, without intermediate purify traps
- All functions and data are continuously checked and filed by PC core-module

The FID permits to reach a higher threshold of sensibility and precision than other detectors.

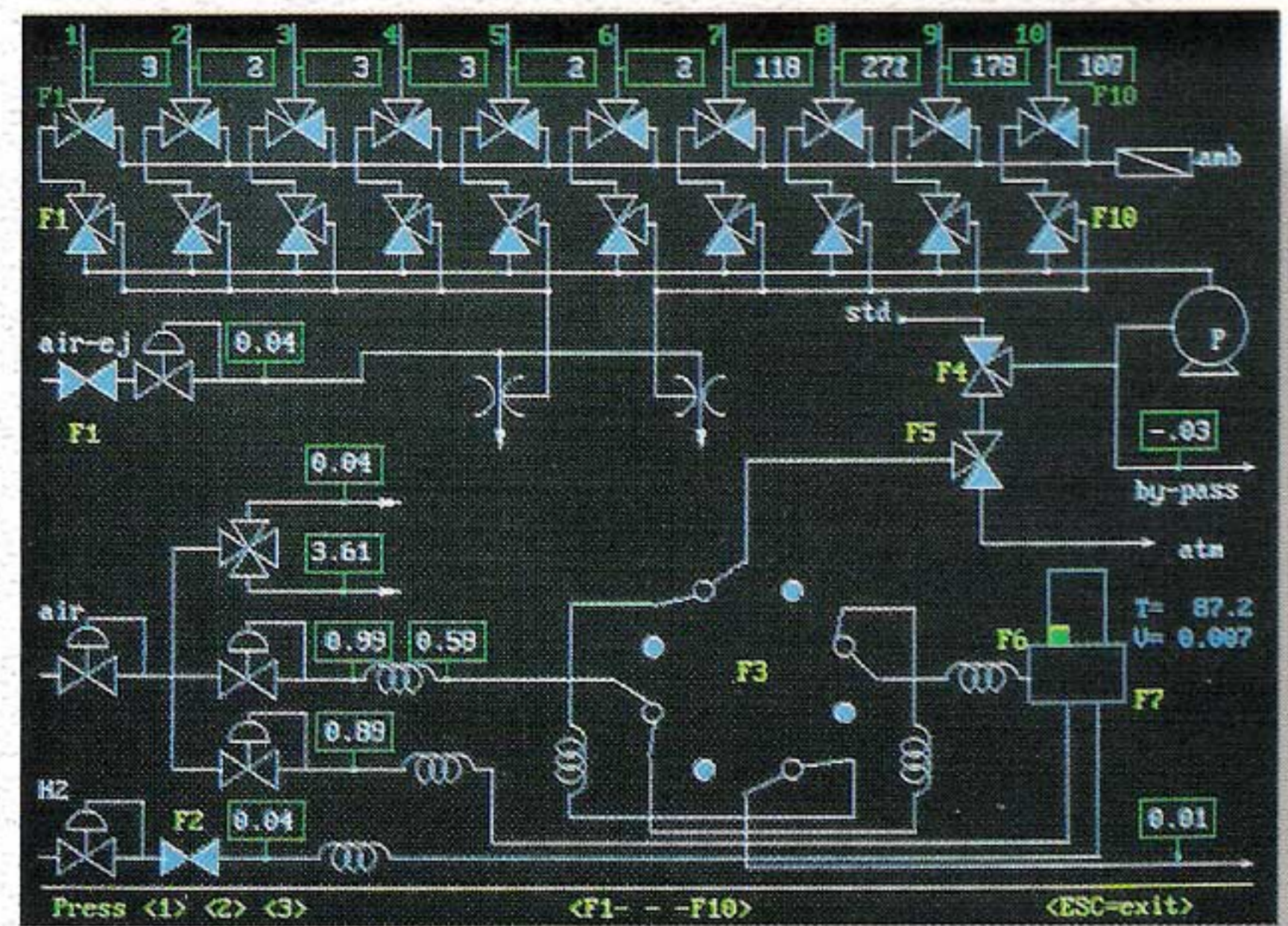
Following for many years the way of volatile organic solvents monitoring, **N.I.R.A.** offer now **SCORPIO 3001**, the first completely automated system able to check the adsorption-desorption plants.



a)

### Computerised management of

- FID detector
- pressure and flow
- temperature
- drawing lines
- calibration
- concentrations range
- alarms
- remote control via modem



b)

a) Set-up display and measurements shows

b) Animated analytic circuit graphic showing



c)

c) Measurement trend and historic data recording



## SCORPIO 3001 technical specification

DETECTION SYSTEM	Flame ionisation (FID)
ANALYSIS LINES	10 max.
COMPLETED ANALYTICAL CYCLE TIME	30 sec.
MEASUREMENTS RANGE (outlet adsorber)	0-100; 0-1000 mg/Nm <sup>3</sup> switching
(inlet adsorber)	0-10 g/Nm <sup>3</sup>
NOISE	0,001% fs
MINIMUM DETECTABLE	0,002% fs
ZERO DRIFT	automatic compensated
SPAN DRIFT	<1% 24 hrs more sensitive range
ACCURACY	+/- 1% fs
LINEARITY	+/- 1% fs
REPEATABILITY	+/- 1% fs
WORKING TEMPERATURE	10° - 40° C
HYDROGEN CONSUMPTION	50 cc/min
	PRESSURE
AIR CONSUMPTION	500 cc/min
	PRESSURE
OUTLET ANALOGUE	0-10 V; 4-20 mA
	SERIAL
ALARMS	nc; free tensions contacts
DISPLAY	VGA (TFT colour, 10")
POWER	220VCA, 500VA

The instruments need the following gas:  
chromatographic hydrogen as detector flame combustible  
chromatographic air as comburent and sampling valve starter  
network air for the ejector (40 lt/min.)

**Execution accordingly to CE 89/392 instructions**



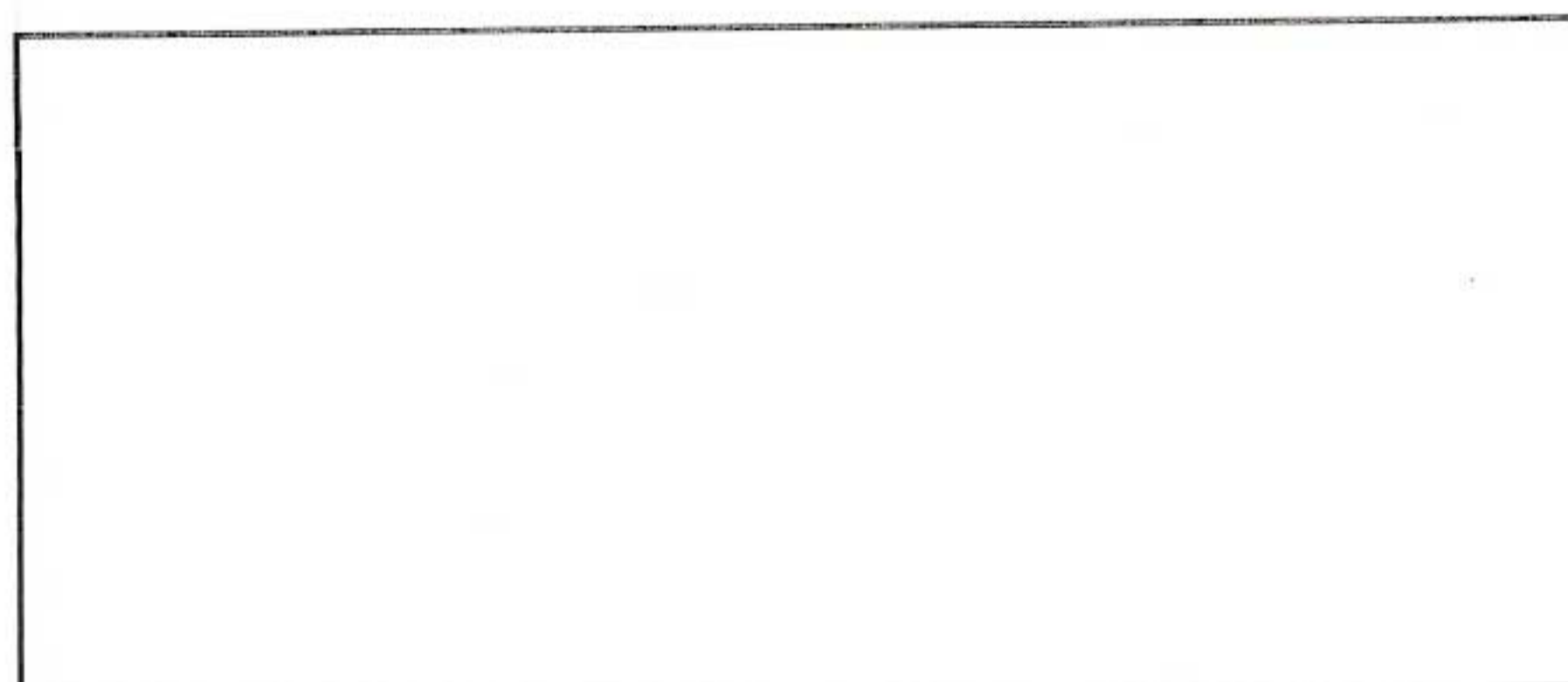
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