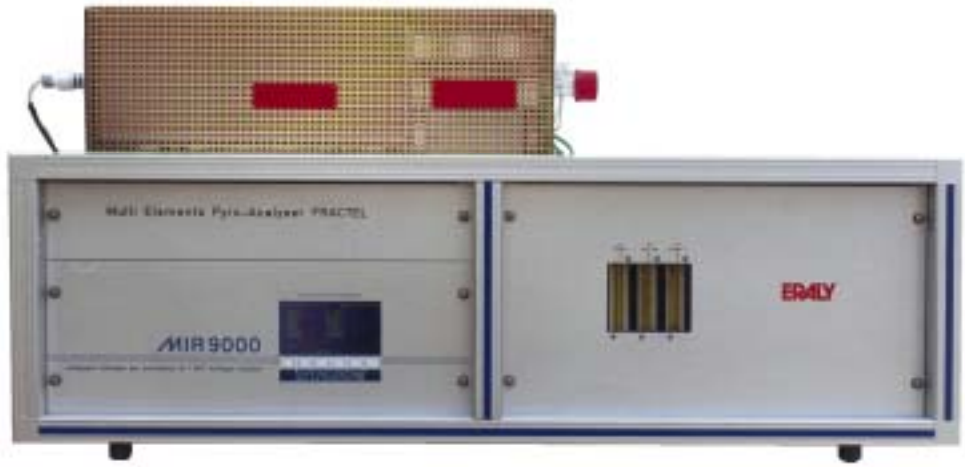
C/3-10/0109

MULTI ELEMENTS * PYROANALYSER

CARBON / HYDROGEN / SULPHUR / NITROGEN

* According to diversity of combinations, nature of products to analyse, needs, some application may only be valid for 2 or 3 simultaneous determinations



"FRACTEL"

(picture without informatics – with IR multigas detector CO_2 - H_2O - SO_2 - NO)

PRINCIPLE

- Thermic decomposition by programmed pyrolysis of sample
- Combustion of eventual volatile effluents and residue
- Simultaneous detection and measure of oxidation products : CO_2, H_2O, SO_2, NO
- Results expressed in global elemental analysis and by separated fractions with temperature sequence

APPLICATIONS

Petroleum products (distillates, residues, asphalts, and so on), petroleum source rock or kerogen, coal, tar, coke, various polymers, vegetal materials, various organic wastes, soil pollution by hydrocarbons, generally any complex organic material.

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Detailed literature and / or quotation on request

Catalogue quotation: of / /

EQUIPMENT

In a main structure, composed with :

AN QUARTZ ANALYSIS TUBE with several zones heated by F1 / F2 / F3 / F4.

FURNACE F1 programmable in temperature (to 800 or 1000°C according to dimensions) receives sample and insures thermic decomposition by pyrolysis and / or combustion.

2ND FURNACE F2 / F3 / F4 (oxidation) at fixed temperature, receives reagents, catalyzers, traps necessary for the analysis.

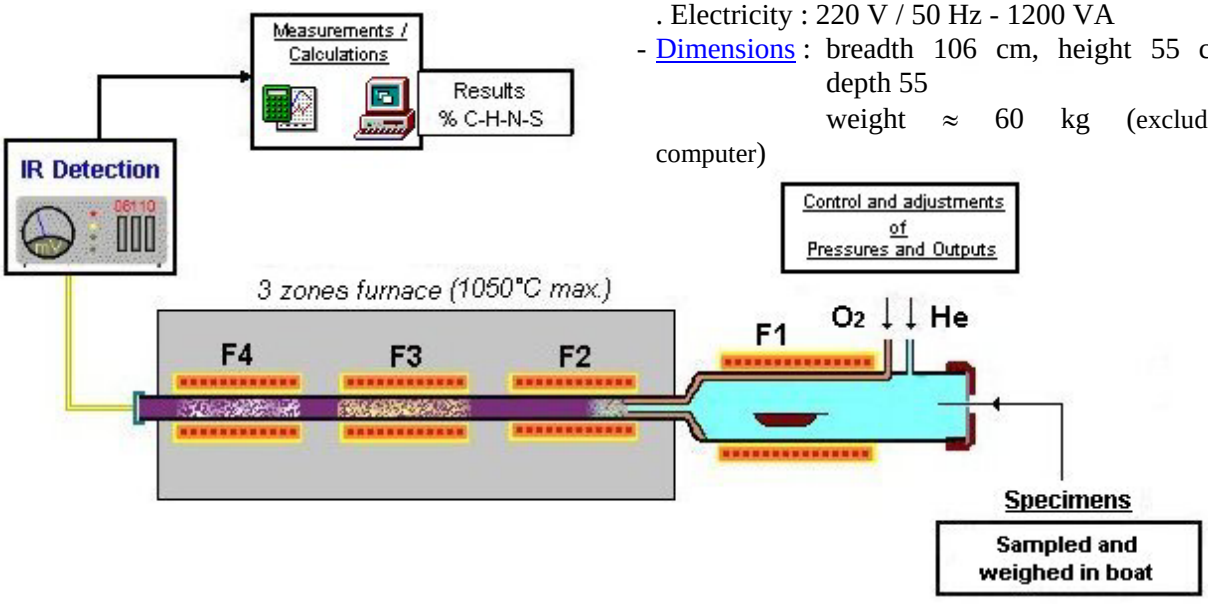
GAS FLOW AND PRESSURE MEASUREMENT and control circuits (inert gas and oxygen).

SPECIALISED ELECTRONIC INTERFACES.

COMPUTER SYSTEM, with associated software for conducting data analysis, acquisition and treatment, and a colour printer for results.

TECHNICAL CHARACTERISTICS

- The F1 Furnace works with temperature program from ambient to 800°C (or 1000°C according to dimensions). It is piloted according to temperature sequence (up to 50 segments, ramps or steps) chosen in sequence file or created by operator according to nature of trial.
- Oxidation furnace is composed with 3 independent and adjustable up to 1050°C heating zones F2 – F3 – F4. At this level, quartz tube is filled with necessary reagents (copper oxide, catalyzers, trap for interferent species).
- Sample is placed in quartz (or porcelain of platinum) boat introduced at level of F1 programmable furnace.
- Sampling may be a few milligram to some grams according to the nature of the components and / or the content of the elements to be measured.
- Gases (oxygen and inert gas) are regulated in pressure and flow.
- Gases to be analysed are carried to the multigas detector by IR spectroscopy and by correlations (MIR 9000)
- Software manages : signals measure, integration, calculations, calibrations and expression of results, savings and impression.
- Supply :
  . Inert gas and Oxygen (purity : 99,995 %)
  . Electricity : 220 V / 50 Hz - 1200 VA
- Dimensions : breadth 106 cm, height 55 cm, depth 55
  weight ≈ 60 kg (excluding computer)



Remark : Above presentation is "basis" version
According to diversity of possible applications (number of required elements, nature of products, content to measure…), this equipment is open ended and adaptable (see or detailed documentation – consult us)

The information contained in this document are not contractual and can be modified according to needs and technologies evolution