

SOLID SAMPLING KIT

FOR THE SGE PYROJECTOR II™

Quantitative Analysis of Solid Samples by Pyrolysis

- Solid sampling kit
- Known sample size
- Easily retrofitted to existing SGE Pyrojectors
- Silica sampling tubes
- Simple and reproducible

INTRODUCTION

Pyrolysis GC has matured sufficiently now as an analytical technique, that it finds application in many fields.

Forensic

- Characterisation of paint flakes
- Characterisation of tyre tread rubbers
- Characterisation of fibres etc.

Polymers

- Identification of Plastics
- Identification of Pigments

Brewing & Foods

- Characterisation of yeasts and bacteria

Building Products

- Determination of concrete additives

Geology

- Determination and characterisation of the organic content in shale

Paper Industry

- Determination of fillers in paper
- Determination of lignins in paper

In these last three areas, while qualitative analysis gives a lot of very useful information, quantitative analysis is really required. It is for this type of analysis that the solid sampling kit was devised.

DESCRIPTION

The Kit consists of a sampling head which is screwed onto the top of the Pyrojector furnace. Carrier gas is connected into it. Samples may be presented in one of two ways.

I. In the quantitative mode, samples are placed inside a disposable quartz tube 50 x 0.53 mm ID in size, which is weighed before and after on an analytical balance, to determine the weight of the sample.

The tube containing the sample is attached to the solids sampling probe by means of a spring hook, (fig. 1). The probe is inserted in the injection head and the sample analysed as per the pyrolysis temperature selected. When the

analysis is complete, the probe, sample tube and any residue is removed from the furnace. The tube, after cooling, can be reweighed to determine the residue if desired.

II. The other method utilised by this device, takes advantage of the fact that sheet materials such as polymeric film, tissue, leather paper etc can be cut quite easily with a "wad" punch or "cork borer", (fig. 2).

The Kit provides a stainless steel tubular cutter which incorporates a plunger with a gas tight seal. Using the cutter as you would a cork borer, a section is cut from the sample and conveyed within the tube to the pyrolyser inlet where it is transferred into the furnace by depressing the plunger, (fig. 3).

The information obtained in this way is "qualitative" but may just as easily be quantified since the bulk sample may be weighed before and after, to determine how much has been taken.

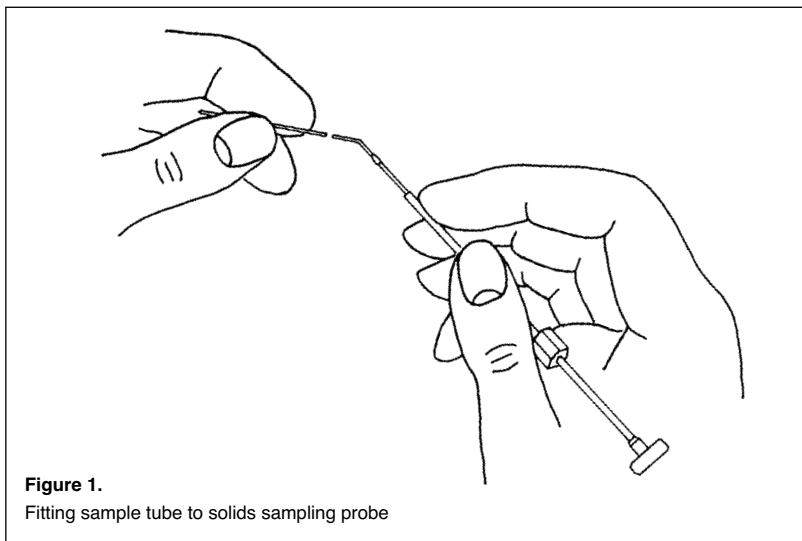


Figure 1.
Fitting sample tube to solids sampling probe

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Figure 2.

Using the tubular cutter accessory to cut a section from a piece of film material. Weigh the sample before and after to ascertain how much has been taken.

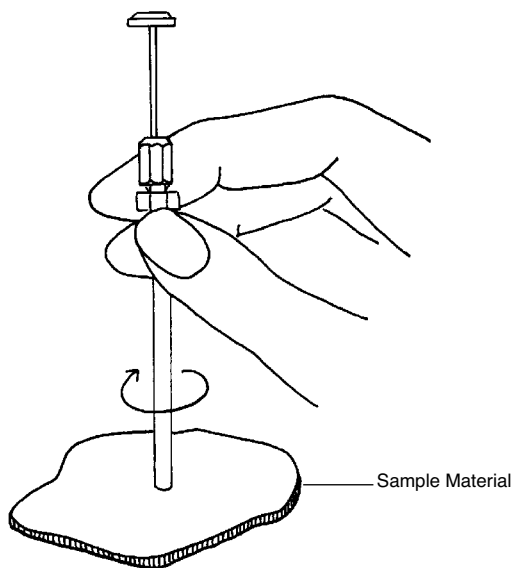
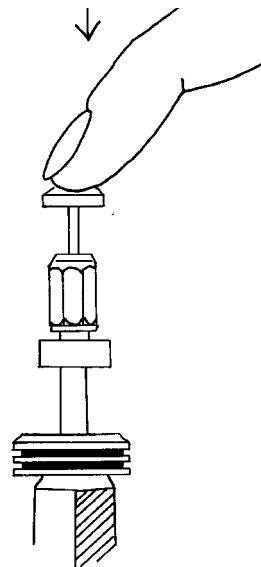


Figure 3.

The tubular cutter containing the sample has been transferred to the Pyrojector and installed in the sampling head. The sample is injected by depressing the plunger.



ORDERING INFORMATION PYROJECTOR II

Part No.	Code	Description
095001	PIU - 2	Pyrojector II (110 or 240V - 50/60 Mz)
09500xx*	PIU adaptor	Instrument and Injector specific adaptor*
0950204	PIU	Solid Sample Accessory Kit
0950095	PIU-QST	Sample Tubes, Quartz, pack of 50

* Nominate make and model of GC and Injector type.

Specifications are subject to change without notice.

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