

ARTISAN®
TECHNOLOGY GROUP

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MTEC MODEL 100 PHOTOACOUSTIC CELL

FTIR SAMPLING ACCESSORY



- Maximizes FTIR capabilities for analysis of solids
- Fastest sample through-put available
- Superior signal-to-noise performance
- Compatible with all FTIR instruments and spectral regions
- Minimal sample preparation reduces risk of spectral artifacts
- Handles difficult samples including surface sensitive materials
- Kinematic mount for easy installation and removal
- Exclusive design for gas purging without disturbing samples

MTEC PHOTOACOUSTICS

STATE-OF-THE-ART SAMPLING FEATURES

- The Model 100 provides the fastest sample change sequence in FTIR-PAS. A flip-lever operated seal and slide-out sample holder combined with convenient sample loading funnel make the sequence easy.

- Signals can easily be enhanced by helium gas purging with no risk of blowing finely powdered materials out of the sample cup. Final gas exchange is by diffusion from a storage volume within the cell housing. This volume also buffers pressure drifts during measurements to maintain constant sensitivity.

- A range of sample sizes are accommodated. The standard stainless steel sample cup is 6.2 mm in diameter and 3 mm deep. Removal of the cup opens a chamber 10 mm in diameter and 5.6 mm deep. Desiccative sample cups are available, as are custom cells designed for special sample geometries.

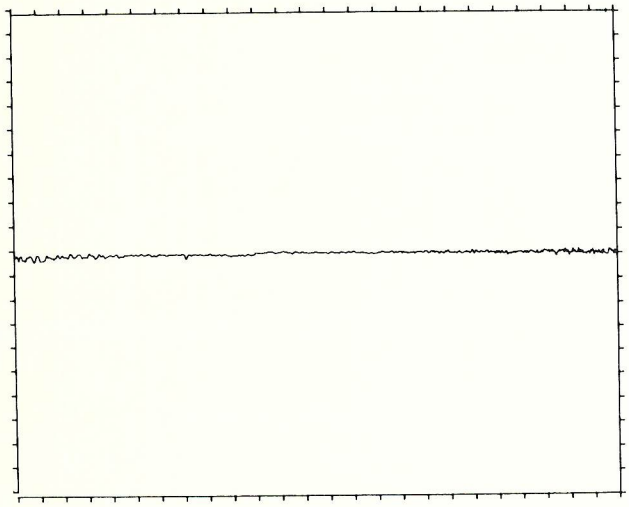
- Surface sensitive samples may be loaded into the Model 100 in a glove box. The cell is easily replaced in FTIR instruments without disturbing alignment because of a kinematic mounting provided.

- Sample changing, without breaking FTIR interferometer purge, is provided for with the Model 100 purge adaptor.

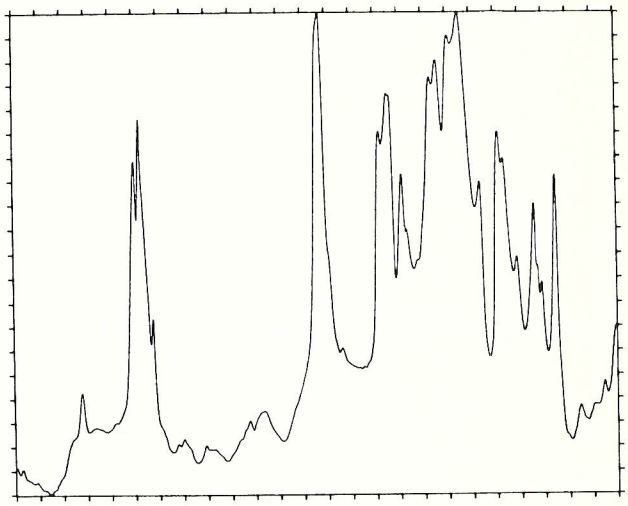
PERFORMANCE

- 100% line peak-to-peak noise typically less than 0.04% at 2000 cm^{-1} for 8 cm^{-1} resolution, 32 scans, and 400 Hz at 4000 cm^{-1}.

- Typical FTIR Photoacoustic Spectra (500-4000 cm^{-1})



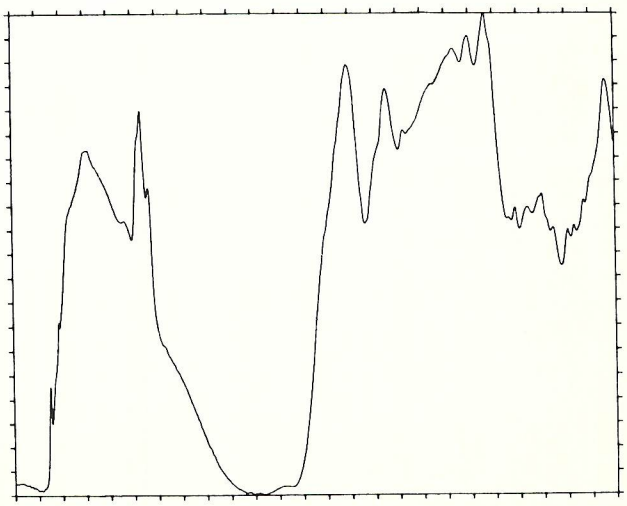
100% Line (95-105%)



Polymethylmethacrylate



Cotton Fibers



Coal

SPECIFICATIONS

- Compatible with all evacuated and purged FTIR instruments
- Internal preamplifier, battery powered, eight gain steps (2x each), 10-10kHz frequency range, peak output ±10V, 14 hour operation between charges or operable with charger on
- Signal output connector: BNC
- Microphone sensitivity: 50 mV/Pa, prepolarized
- Cell volume: Less than 0.25 cm^3
- Spectral range: Ultraviolet to far infrared
- Image reduction factor for focusing mirror: 2 to 1
- Dimensions including convenient clearances: height 4.6 in., length 6.3 in. (parallel to beam), beam height 2.5 in., width 6.7 in.
- Limited warranty period: 1 year.

MODEL 100 SYSTEM PACKAGE

Included Components:

- Photoacoustic Cell
- Power Supply/Gain Control
- Purge Adaptor and Sample Funnel
- Kinematic Mount
- Cables and Charger
- Center Focus Mirror
- Instrument Manual

Optional Components:

- Spare KBr, CsI, Quartz and Polyethlyene Windows
- Desiccative and Standard Sample Cups
- Vacuum Connector
- Special Focus Mirrors
- O-ring Kit

ORDERING INFORMATION

Available from most FTIR instrument manufacturers and:

MTEC Photoacoustics
P.O. Box 1095
Ames, IA 50010, USA
Telephone: (515) 292-7974

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