

I N F R A 3 0 0 0
F T I R

Products | Applications | Software | Accessories | Consumables | Services

Analytical Technologies Limited
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Features :

- New type cube corner Michelson interferometer features smaller size and more compact structure, providing higher stability and less sensitive to vibrations and thermal variations than conventional Michelson interferometer.
- Fully sealed damp and dust proof interferometer, adopting high performance, long lifetime sealing material and desiccator, ensures higher adaptability to the environment and increases accuracy and reliability in operation. Viewable window for silica gel enables easy observation and replacement.
- Isolated IR source and large space heat dissipation chamber design provides higher thermal stability and Self-Compensation Stable interference is obtained without the need of dynamic adjustment..
- High intensity IR source adopts a reflex sphere to obtain even and stable IR radiation.
- Cooling fan stretch suspending design ensures good mechanical stability and multimedia tutorials.
- Super wide sample compartment provides more flexibility to accommodate various accessories.
- Built in purge facility with sealed and desiccated optical set up.
- The application of programmable gain amplifier, high accuracy A/D converter and embedded computer improves the accuracy and reliability of the whole system.
- The spectrometer connects to PC via a USB port for automatic control and data communication, fully realizing plug-and-play operation.
- Compatible PC control with user friendly, rich function software enables easy, convenient and flexible operation. Spectrum collection, spectrum conversion, spectrum processing, spectrum analyzing, and spectrum output function etc. can be performed.
- Various special IR libraries are available for routine search. Users can also add and maintain the libraries or set up new libraries by themselves.
- Accessories such as Defused/Specular reflection, ATR, Liquid Cell, Gas Cell, and IR microscope etc. can be mounted in the sample compartment.
- Minimizes the effect of atmospheric water and CO₂ interference.
- Facilitated with high longevity and stable interferometer
- Auto and manual subtraction of CO₂ and H₂O absorption are available.
- Determination of both solid and liquid samples.

Specifications :

- Spectral Range : 7800 to 375cm⁻¹
- Resolution : Better than 0.85cm⁻¹ (Model 3000A)
Better than 0.5cm⁻¹ (Model 3000B)
- Wavenumber Precision : 0.01cm⁻¹ -2000cm⁻¹
- Wavenumber Accuracy: 0.05cm⁻¹.
- Scanning Speed : 5 - step adjustable for different applications
- Signal to noise ratio : better than 45,000:1
(RMS value, at 2100cm⁻¹, resolution : 4cm⁻¹, detector: DTGS, 1 minute data collection)
- Optics: Self aligned (for long-term Stability reliability and reproducibility)
- Beam Splitter: Ge coated Kbr
- Infrared Source : Air-cooled, high efficiency Reflex Sphere module (long life IR source)
- Detector : DTGS/DLATGS (with temperature control)
- Data System: Compatible computer
- Software: FTIR software contains all routines needed for basic spectrometer operations, including library search, quantitation and spectrum export
- IR Library : 11 IR libraries included
- Dimensions : 54 x 52 x 26 cm
- Weight : 28 Kg
- Operation of Instrument 220-240 V/ 50/60 Hz



Accessories :

Diffuse /Specular Reflectance Accessory

It is a versatile diffuse reflectance and specular reflectance accessory. Diffuse reflection mode is used for transparent and powder sample analysis. Specular reflection mode is for measuring smooth reflective surface and coating surface.

- High light throughput
- Easy operation, no internal adjustment needed
- Optical aberration compensation
- Small light spot, able to measure micro samples
- Variable angle of incidence
- Fast change of powder cup



Horizontal ATR/Variable Angle ATR (30°~ 60°)

Horizontal ATR is suitable for the analysis of rubber, viscous liquid, large surface and pliable solids etc. Variable angle ATR is used for measurement of films, painting (coating) layers and gels etc.

- Easy installation and operation
- High light throughput
- Variable depth of IR penetration



IR Microscope

- Micro samples analysis, minimum sample size: 100mm (DTGS detector) and 20mm (MCT detector)
- Translucent sample analysis
- Two measurement methods: transmission and reflection
- Easy sample preparation



Single Reflection ATR

It provides high throughput when measuring materials with high absorption, such as polymer, rubber, lacquer, fiber etc.

- High throughput
- Easy operation and high analytical efficiency
- ZnSe, Diamond, AMTIR, Ge and Si Crystal plate can be selected according to application.



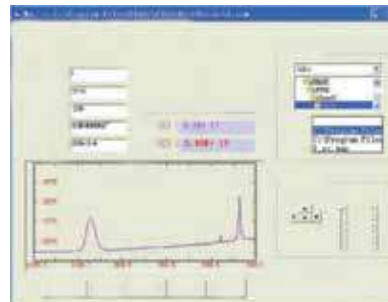
Accessory for Determination of Hydroxyl in IR Quartz

- Fast, convenient and accurate measurement of Hydroxyl content in IR quartz
- Direct measurement to IR quartz tube, no need to cut samples
- Accuracy : $\pm 1 \times 10^{-6}$ (± 1 ppm)



Accessory for Oxygen and Carbon in Silicon Crystal Determination

- Special silicon plate holder
- Automatic, fast and accurate measurement of oxygen and carbon in silicon crystal
- Lower detection limit : $1.0 \times 10^{16} \text{ CM}^{-3}$ (at room temperature)

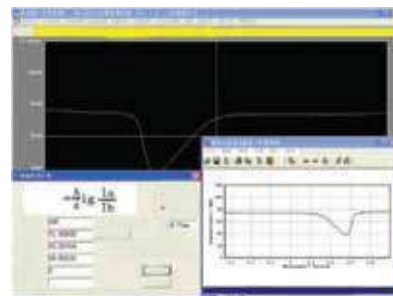


SiO₂ Powder Dust Monitoring Accessory

- Special SiO₂ Powder Dust Monitoring software
- Fast and accurate measurement of SiO₂ Powder Dust

Component Testing Accessory

- Fast and accurate measurement of the response of such components as MCT, InSb and PbS etc.
- Curve, peak wavelength, stop wavelength and D* etc can be presented



Optic Fiber testing Accessory

- Easy and accurate measurement of the loss rate of IR optic fiber, overcoming the difficulties for fiber testing, since they are very thin, with very small light passing holes and uneasy to fix.

Jewelry Inspection Accessory

- Accurate identification of Jewelries.



Universal Accessories

- Fixed liquid cells and demountable liquid cells
- Gas cells with different pathlength



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