

# FTIR Spectrometer

## (Fourier Transform Infrared Spectrometer)



## TOP-3000FTIR

### Introduction:

TOPLAB INDIA'S TOP-3000FTIR Fourier Transform Infrared Spectrometer is an independent research and development of products, it is the most competitive FTIR on the world, convenient installation, simple use, convenient maintenance, our FTIR is widely used by materials science, bio pharmaceutical, petrochemical, food safety and other industry analysis instruments, it's also adopted by university laboratory for scientific research and teaching..

**The new TOP-3000FTIR is upgraded to total seal structure to bring higher moisture proof, a LCD is adopted to display moisture and remind you to replace the desiccant box. The desiccant is on the cover, you can change it easily by hand without opening the cover.**

The FTIR is based on Michelson interferometer principle, the light emitted by the light source by Michelson interferometer to optical interference, let interference illumination samples, the receiver receives the interference light with sample information, and then by the computer software by transform to obtain the spectra of the samples.

## **Fourier Transform Infrared Spectrometer**

### **Technical Features:**

#### **Reliable optical system**

- The design integrates main components to an optical bench machined from a cast aluminum, accessories will be mounted by needle positioning, no need to adjust.
- Sealed Michelson interferometer, combined with moisture proof beam splitter and bigger Moisture proof agent box to get 5 times moisture proof ability.
- The temperature observation window adopts 7 degree forward design, which conforms to the principle of human engineering, easy to observe and convenient to replace the molecular sieve.
- The design of push pull type sample bin can greatly reduce the interference of water and carbon dioxide in the air on the test results, and it's designed larger to access various accessories.
- Working power less than 30W, green environmental protection.

#### **High stable components**

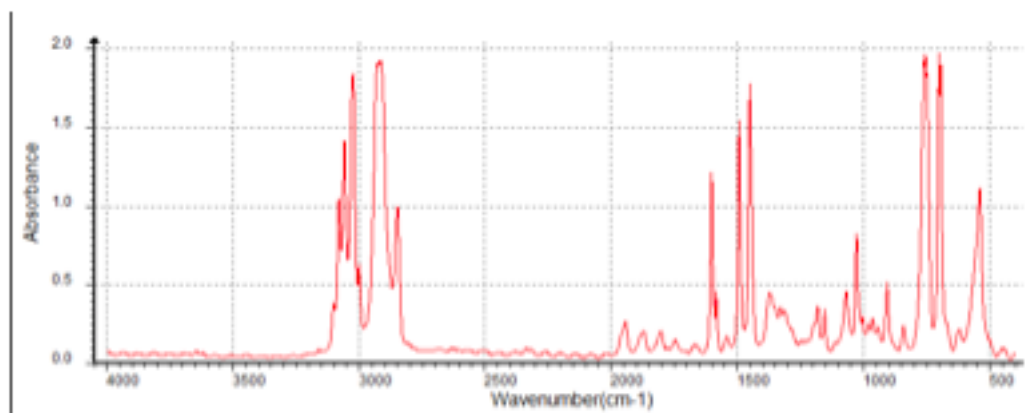
- The sealing interferometer uses USA imported gold cube corner reflector with high reflectivity and angular accuracy.
- With high performance long life ceramic light source imported from USA, the luminous efficiency is as high as 80%.
- VCSEL laser imported from USA with high performance.
- High sensitive DLATGS detector imported from USA.
- It's off axis mirror using SPDT cutting process, with excellent optical efficiency and system consistency.
- The imported special steel rail, heavy load, low friction, ensure data stability and repeatability.

#### **Powerful intelligent software**

- Intelligent computer controlled operation system, User can quickly get started and skilled whether user has contacted the FTIR software.
- Unique spectral data acquisition monitoring preview mode, land acquisition process.
- Provide standard library of approximately 1800 spectra for free, include most common Compounds, drugs, oxides.
- Software with infrared calibration standard calibration function.

## Fourier Transform Infrared Spectrometer

### Spectrum:



### Technical Specification:

Model No. :	TOP-3000FTIR
Wavelength Range :	7800 ~ 375 cm <sup>-1</sup>
Interferometer :	Michelson interferometer with 30 degrees of incidence angle
100% $\tau$ line tilt range :	Better than 0.5 $\tau$ % (2200~1900cm <sup>-1</sup> )
Resolution :	1 cm <sup>-1</sup>
Wavelength Repeatability :	1cm <sup>-1</sup>
Signal Noise Ratio :	30000:1 (DLATGS, resolution@4cm <sup>-1</sup> sample and Background Scan for 1 min@2100cm <sup>-1</sup> )
Detector :	High Resolution DLATGS Detector with Moisture-proof coating
Beam Splitter :	KBr Coated with Ge
Light Source :	Long life, Air-Cooled IR light source
Electronic System :	A/D converter of 24 bits at 500MHz, USB 2.0
Power Supply :	AC 220V, 50/60Hz
Outer Dimension :	450mm * 350mm * 235 mm
Instrument Weight :	Approx. 15 Kg

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### Optional Spare Parts:

<p><b>Zn Se Crystal ATR</b></p>	
<p><b>Sheet Mold</b> Press the powder into a window in order to test. Diameter 13mm, thickness 0.1-0.5mm, without de-molding.</p>	
<p><b>Agate mortar</b> Grand solid sample into powder Diameter 70mm</p>	
<p><b>Hydraulic Press</b></p>	
<p><b>IR- Microwave Oven</b> Temperature 70~250°C (You can buy it from your local market)</p>	
<p><b>Liquid Cell</b> For liquid sample KBr window, deliquescent, wavelength range 7000-400cm-1 Light transmittance range 2.5 μ m~25 μ m</p>	