



FTIR/FTNIR SPECTROMETERS

FTIR spectrometer 2201 is a low cost easy to use laboratory instrument designed for a wide range of IR spectroscopy applications.

Basic accessories for IR studies, such as different types of liquid cells, gas cells, including longpath, specular reflectance accessories, HATR kit, etc. are available.

The basic software package is Windows 9x/XP based.

Specifications

MODEL	FTIR 2201	FTIR 2202	FTNIR 2203
Spectral Range, cm^{-1}	7800-350	7800-350	2500-1200
Spectral Resolution, cm^{-1}	1	0.5	2
Signal/Noise ration RMS (resolution 4 cm^{-1} , 1 min)	> 90000		
Wave number Accuracy cm^{-1}	± 0.01		
Light source:	High intensity Ceramic light source.		
Beam splitter :	Ge coated Kbr		
Detector:	Deuterated triglycine sulphate (DTGS) (or) Deuterated L-alanine triglyceride sulphate (DLATGS) detector		
Minimum Scan time (resolution 4 cm^{-1}), sec	1		
Sample compartment dimensions, cm	15 x 19 x 17		
Spectrometer dimensions, cm	52 x 37 x 25		
Weight, kg	28		

Main Features

Permanent Alignment

interferometer provides long-time stability and requires no alignment due to design, utilizing cube corner retro reflectors. Completely sealed interferometer with dynamic/permanent alignment for Stable performance and immune to tilt, shear and vibrations. Further protected from humidity by inbuilt self drying facility.

Sealed Housing

interferometer and detector sections including control electronics are enclosed in hermetically sealed aluminum housing. The enclosure is dessicated to eliminate atmospheric interference.

Original Scanning System

Mirror movement is digitally controlled. Scanning mechanism utilizing a precision plain bearing is pressurized air free.

Air cooled IR Source

IR source needs no cooling water. Replacement procedure is simple and does not require any alignment.

Pharma Library

7800 available

Applications

Chemicals and petrochemicals

Quantitative analysis of organic and inorganic substances.

Pharmaceuticals

Drug standard, identification of legal and illegal drugs, drug precursors.

Polymers and Coatings

Monomers, Solvents, Pigments, Identification Of Impurities.

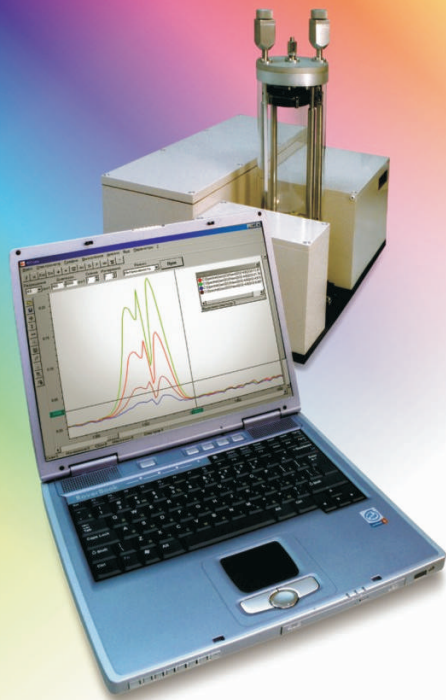
Foods

Quality control: food additives, sugars, edible oils, flavors and fragrances.

Environmental analysis

Detection of hydrocarbons in water, atmospheric air monitoring.





Software

The basic software packages **Fspec** provides spectra collection, testing of the spectrometer, work with the users spectral database. A wide set of operations is intended for spectra processing and primary analysis.

Analytical software package **Aspec** provides multi-component quantitative analysis, based on the CLS and PLS multivariate methods.

Software including Built in Spectral search, Base line correction, Smoothing, Peak picking, Peak analysis tools, Should have the facility to convert it into ASCII / text file to obtain data in X, Y coordinates, Automatic identification of impurities, Absorbance to transmittance conversion, ATR correction.

Accessories for IR Spectroscopy

A wide range of accessories is available for FSM FTIR spectrometers, including sealed and demountable liquid cells, short path and multipass gas cells, ATR and specular reflectance accessories, Diffuse reflectance (DRS). Mortar & Pestle, IR grade KBr powder hydraulic press, KBr pellets kit, etc.



Sealed quartz liquid cells with 2 to 40 mm optical path.

Multipass gas cell, 0.8 to 4.8 m optical path with 0.8 m increment. Vacuum valves. Windows KBr, CaF_2 22 mm dia. Other window material may be ordered. Materials used: nickel plating, stainless steel, golden coating.



Demountable liquid cell, 10,20,40 mm optical path. Windows KBr, CaF_2 40 mm dia. Other window material may be ordered. Frame size 50x75 mm.

Kbr pellets 13 mm dia. die set.



Demountable liquid cell, spacer set 0.1 to 1 mm (option 0.006 to 0.05 mm). Windows KBr, CaF_2 . Other window material may be ordered. Frame size 50x75 mm.

Mortar and pestle 90 mm dia., jasper (equivalent agate).



Gas cell, 100 mm optical path. Vacuum valves. Windows KBr, CaF_2 40 mm dia. Other window material may be ordered. Materials used: anodized glass, aluminium alloy, nickel plating, stainless steel.

Kbr pellets 13 mm dia. holder. Frame size 50x75 mm.





10 ton manual hydraulic press.



Horizontal ATR accessory.
ZnSe prism 36x16x4 mm, 45°.
Other prism material may be ordered.



Specular reflectance accessory,
10° angle of incidence



Specular reflectance accessory,
30° angle of incidence



Specular reflectance accessory, 45° angle
of incidence.



Specular reflectance accessory, 80° angle
of incidence.

IR microscope MIK 15 is an accessory for FTIR spectrometers FSM and is intended for obtaining transmittance, and reflectance IR spectra for the areas of samples with linear dimensions 400 microns and less. It allows to carry out the following measurements:

Investigation of micro samples, investigation of micro-areas in non-uniform samples.

IR microscope is mounted in the sample compartment of the FSM spectrometer, or utilizing parallel beam of IR radiation put out through the optical port of any appropriate IR spectrometer.



Operational mode transmittance, reflectance

Signal-to-noise ratio RMS
(area size 400 mm, resolution
8 cm-1, acquisition time 1
min.) >800

Objective Cassegrain x15, all-mirror
Detector LiTaO3

Minimal area size, mm 20

Sample table 3D, manually operated

Visual control optical binocular unit

Dimensions, mm 430x280x150

Weight, kg 8

Transmittance accessory for
silicon wafers up to 200 mm dia.



Specular reflectance accessory for
silicon wafers up to 200 mm dia.,
10° angle of incidence.



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