FT/IR-4000/6000 Series

FT-IR Spectrometers

Model FT/IR-4600/4700
FT-IR Spectrometer

Model FT/IR-6600/6700/6800
FT-IR Spectrometer

JASCO

Building total solutions to address a variety of applications

Advanced FT-IR Solutions

With over fifty years of experience in infrared spectroscopy and using the most advanced technology, JASCO offers the best solutions for FT-IR analysis with a complete range of application-focused FT-IR spectrometers and sampling accessories as well as a dedicated instrument control and data analysis interface. The NEW FT/IR-4000 and 6000 Series FT-IR Spectrometers provide capabilities from education and routine analysis to advanced research applications, featuring high quality, performance and reliability. They are also designed with flexibility and expandability in mind to meet with a wide range of future application requirements.

- *Excellent signal-to-noise ratio*
- *A full range of sampling accessories*
- *IQ accessory recoginition*
- *Vibration-proof optical bench*
- *Large sample compartment*
- *Auto-alignment*
- *Purgeable optics*
- *Highly sensitive detector*
- *Applicable to FT-IR microscopy and IR Imaging*
- *Rapid scan option*
- *Wavenumber extension option*
- *Vibrational Cirular Dichroism (VCD) option*

FT/IR-4000 Series

The most complete selection of FT-IR capability from education and routine analysis to high performance research systems with standard automatic validation

FT/IR-4600
Maximum resolution: 0.7 cm^{-1}
S/N ratio: 25,000:1

FT/IR-4700
Maximum resolution: 0.4 cm^{-1}
S/N ratio: 35,000:1

FT/IR-6000 Series

Designed for a wide range of critical research and development applications, each unit can be fitted with a number of options, including the wavenumber extension option using an automatic beam splitter exchange unit, as well as step scan or full-vacuum options.

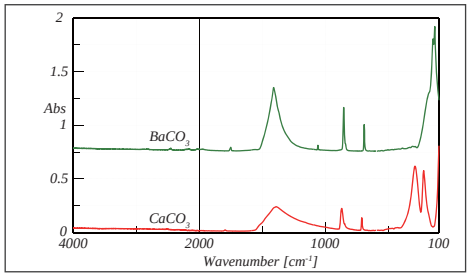
FT/IR-6600
Maximum resolution: 0.4 cm^{-1}
S/N ratio: 45,000:1

FT/IR-6700
Maximum resolution: 0.25 cm^{-1}
S/N ratio: 47,000:1

FT/IR-6800
Maximum resolution: 0.07 cm^{-1}
S/N ratio: 55,000:1
Rapid scan as standard
Au-coated mirrors for higher throughput
FT-Raman option

Automatic broadband measurement under vacuum conditions

Combining the automatic beam splitter exchange unit and the automatic window switching unit/automatic gate valve unit, a broadband spectral range measurement of a sample can be provided without breaking the instrument vacuum conditions. The figure demonstrates the measurement of a carbonate sample by using the ATR PRO ONE with a broadband diamond crystal under instrument vacuum conditions.



Simple and Easy-to-Use Operations

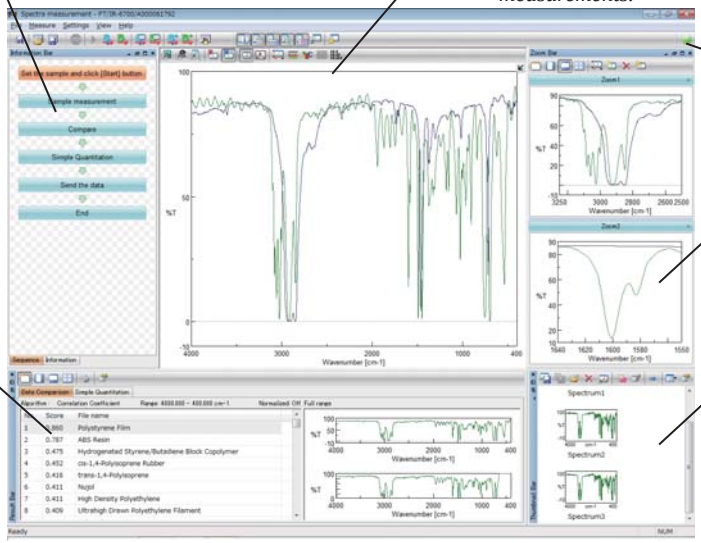
The FT/IR-4000/6000 Series is controlled by JASCO's exclusive Spectra Manager ™ II cross-platform software. Spectra Manager has various instrument control programs such as Spectra Measurement, Quick Start, spectra Compare and sample Quantitative Analysis. The measurement screen can be customized according to the user requirements and the customized screen and parameters can be saved for future use (User Adaptive Software function).

Sequence

Information such as instrument status, measurement parameters and the sequence of data acquisition and data processing commands are displayed.

Real-time monitoring

Real-time data processing function allows modification of the current spectrum during measurements. Spectra stored in thumbnails can be overlaid with the current spectrum during measurements.



Self-diagnosis

Self-diagnosis function provides verification of the current instrument status.

Zoom

Target peaks and functional groups can be easily viewed by the zoom function.

Results display

Acquisition results from spectral comparison and sample quantification are displayed.

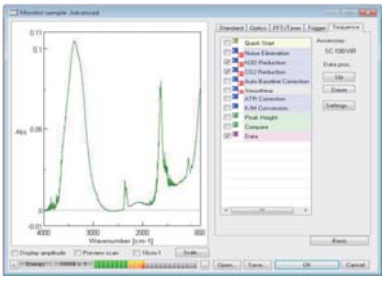
Thumbnail

The measured spectra can be stored as thumbnails within the thumbnail window.
The thumbnails can be selected and viewed in Spectra View.

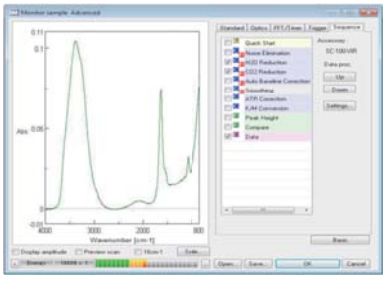
Advanced Measurement Screen of Spectra Manager II

Real-time data processing

Before starting a sample measurement, the data processing procedures can be determined by checking the results of the real-time data processing of a preliminary sample spectrum in the preview window.



Before data processing



After data processing
(CO_2 reduction and H_2O correction)

High-throughput Single Reflection ATR NEW

ATR PRO ONE Single-reflection ATR Accessory

The New ATR PRO ONE is a single reflection ATR accessory using a newly designed monothilic diamond crystal to provide dramatically high optical throughput. A "torque-limiter" pressure applicator providing reproducible sample pressure contact allows excellent reproducibility for sample measurements.

- *Two types of diamond crystal kits*
  - *High-throughput model optimized for mid-IR measurements*
  - *Broadband model capable for measurements into the Far-IR*
- *Available options for a ZnSe or Ge crystal kit*

Specifications

Model:		FT/IR-4600	FT/IR-4700	FT/IR-6600	FT/IR-6700	FT/IR-6800
Standard wavenumber measurement range:		7,800 to 350 cm^{-1}				
Optional extended wavenumber range:		15,000 to 2,200 cm^{-1}, 5,000 to 220 cm^{-1}		25,000 to 10 cm^{-1}		
Display wavenumber range:		15,000 to 0 cm^{-1} (standard)		15,000 to 0 cm^{-1} (standard), 25,000 to 0 cm^{-1} (optional)		
Wavenumber accuracy:		Within ± 0.01 cm^{-1} (theoretical value)				
Maximum resolution:		0.7 cm^{-1}	0.4 cm^{-1}	0.4 cm^{-1} 0.07 cm^{-1} (optional)	0.25 cm^{-1} 0.07 cm^{-1} (optional)	0.07 cm^{-1}
Optical system:		Single beam				
Sample chamber:		Size: 200 mm (W) × 260 mm (D) × 185 mm Optical path: Center focus, light axis 70 mm high				
Interferometer:	Configuration:	45° Michelson interferometer Corner cube mirror interferometer, with auto-alignment mechanism, sealed structure, DSP control		28° Michelson interferometer Corner cube mirror interferometer, with auto-alignment mechanism, sealed structure, DSP control		
	Vacuum instrument:	—		Options available		
	Mirror coating:	Aluminum				Gold
	Drive method:	Mechanical bearing, electromagnetic drive				
	Drive speed:	AUTO, 1, 2, 3, 4 mm/sec AUTO DLATGS 2.0 mm/sec. MCT (optional) 4.0 mm/sec.		0.5, 1, 2, 3, 4, 5, 6, 7, 8 mm/sec AUTO DLATGS 2.0 mm/sec. MCT (optional) 4.0 mm/sec.	0.5, 1, 2, 3, 4, 5, 6, 7, 8 mm/sec AUTO DLATGS 2.0 mm/sec. MCT (optional) 4.0 mm/sec.	0.125, 0.25, 0.5, 1, 2, 3, 4, 5, 6, 7, 8 mm/sec AUTO DLATGS 2.0 mm/sec. MCT (optional) 4.0 mm/sec.
	Rapid scan:	10 Hz (optional)		20 Hz (optional)		20 Hz (standard)
Beam splitter:	Substrate material:	Standard: Ge/KBr Option: Si/CaF_2, Ge/CsI (not interchangeable)		Standard: Ge/KBr Option: Quartz, Si/CaF_2, Ge/CsI, Mylar (interchangeable)		
	Replacement method:	—		Secure-lock beamsplitter catch system (Option: Automatic beamsplitter exchange system)		
Light source:		Standard: High-intensity ceramic source Option: Halogen lamp (factory option only)		Standard: High-intensity ceramic source Option: Halogen lamp, water-cooled mercury light source Up to three light sources may be installed simultaneously including external light sources.		
Detector:		DLATGS (with Peltier temperature control) (standard)				
		W-MCT, M-MCT, N-MCT, Si, InSb, InGaAs (optional) Two detectors may be mounted simultaneously within the instrument.		W-MCT, M-MCT, N-MCT, Si, InSb, InGaAs, PAS, Si bolometer (optional) Two detectors may be mounted simultaneously within the instrument. Up to two external detectors may be installed.		
Purging:		Interferometer, Sample compartment/Detector				
Signal-to-noise ratio: (4 cm^{-1}, 1 min, near 2,200 cm^{-1})		25,000:1	35,000:1	45,000:1	47,000:1	55,000:1
Gain switching:		AUTO, 1, 2, 4, 8, 16, 32, 64, 128				
100%T line flatness:		Within 100 ± 1.0%T (4,000 to 700 cm^{-1}, continuous repetitive measurement)				
Communication:		USB2.0				
FTIR main unit:		Dimensions: 460 (W) × 645 (D) × 290 (H) mm Weight:33 kg		Dimensions: 600 (W) × 670 (D) × 315 (H) mm Weight:56 kg		
Power supply unit:		Dimensions:200 (W) × 285 (D) × 90 (H) mm, Weight:4.7 kg This unit can be placed on its base or on its side.				

Standard Composition

Parts name	Number	Remarks
Power supply	1	
Connecting cable	1	Cable for connecting the main unit to the power supply
AC cable	1	AC cable for the power supply
USB cable	1	Cable connecting the main unit to the PC
Sample holder	1	
Standard sample	1	Polystyrene film
Stepped pin	2	Used when installing optional accessories into the sample compartment.
Instruction manual	1	
Install Disk	1	Including Spectra Manager™ II, QAU-4000 Quantitative program and KnowItAll JASCO Edition
Fuse	2	

* CFR Model does not include QAU-4000.
* LE or LE-CFR Models does not include QAU-4000 and KnowItAll JASCO Edition.

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