Agilent 640 FTIR

High performance, affordable spectrometry

Specifications

Design overview

The Agilent 640 FTIR is a 'fit-for-purpose', high-performance spectrometer designed to make FTIR spectroscopy easy. With a range of unique, easy-to-use hardware and software features, it allows even novice users to quickly become productive. It is available in mid-IR or near-IR configurations and is suited to QA/QC or method development applications where higher performance is required.

The Agilent 640 FTIR spectrometer design is based on a 24 mm dynamically aligned, 60° mechanical bearing Michelson interferometer and comes standard with better than 0.18 cm^{-1} resolution. It includes a revolutionary air-cooled source that delivers maximum power to the sample.

The Agilent 640 FTIR is compatible with a wide range of accessories. These include single-point microscopy and microscopy imaging, macro imaging, ATR imaging, and hyphenated techniques such as GC-IR, GPC-IR and TGA-IR.

Agilent FTIR spectrometers are manufactured according to a quality management system certified to ISO 9001.

Performance specifications

Type	Specification
Interferometer type	24 mm dynamically aligned, 60° mechanical bearing Michelson
Spectral range (cm^{-1})	
Standard	Mid IR: 9,000–375
Optional	Near-IR: 15,800-2,800
Spectral resolution (cm^{-1})	
Guaranteed	Better than 0.19
Signal-to-noise ratio	
Guaranteed 5 sec p-p	>6,000:1 p-p
Typical 5 sec p-p	>8,000:1 p-p
Typical 1 min p-p	>28,000:1 p-p
Typical 1 min RMS	>118,000:1
Infrared power (at sample focus)	40 mW
Wavenumber	
Wavenumber accuracy	0.01 cm^{-1} at 2200 cm^{-1}
Wavenumber precision	0.005 cm^{-1}
Photometric performance	
Ordinate linearity DLaTGS	<0.06%T (Deviation from 0%T based on ASTM1421)
Ordinate linearity, linearized MCT	<0.10 Abs (Deviation from 1.60 Abs polystyrene peak at 2920 cm^{-1})
Kinetics scan rates	
16 cm^{-1} spectral resolution	>40 spectra/second
Spectrometer enclosure	
Standard	Sealed and dessicated
Optional	Tropical (moisture-resistant windows)
A/D converter	Delta-Sigma, 24 bit, 600 kHz
Spectrometer interface	USB 2
External ports	2 (left and right)

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Physical specifications

Type	Specification
Sample compartment dimensions (W x D x H)	23.2 x 27.6 x 15.4 cm (9.1 x 10.9 x 6.1 in.)
Spectrometer dimensions (W x D x H)	70.8 x 75.6 x 34.4 cm (27.9 x 29.8 x 13.5 in.)
Weight	80 kg (176 pounds)

Configurations

Standard configuration[1]	Specification
Mid-IR	
Range (cm^{-1})[2]	9,000–375
Source	Ceramic air cooled
Beamsplitter	KBr
Detector	Cooled DLaTGS and MCT detectors
Near-IR	
Range (cm^{-1})[2]	15,800–2,800
Source	Tungsten-halogen
Beamsplitter	NIR quartz
Detector	PbSe

Accessories

Type	Specification
The Agilent 640 FTIR is compatible with sample compartment accessories from all major accessory manufacturers and uses Accessory Recognition Technology (ART).	
Major accessories include	610 Microscope 620 Microscope Focal Plane Array (FPA) chemical imaging GC-IR accessory GPC-IR

Support policies

Type	Policy
Warranty	12 months, though this may vary according to location.
Hardware support period	Seven (7) years from date of last unit manufacture. After this time, parts and supplies will be provided if available.
Software support	Software upgrades to add additional functionality will attract a fee.

Further details

More information	
	For further information please consult your Agilent office or supplier, or our Web site at www.agilent.com.

1. Other configurations may be available.
2. This represents only an approximate range based on the configuration of components shown in the table. Other combinations of components may alter this range.

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Published May 1, 2011
Publication number: 5990-8113EN

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