VERTEX Series FTIR Spectrometer

Reach the peak performance with the Bruker VERTEX Series research FTIR spectrometers. The VERTEX Series is the culmination of everything Bruker has pioneered and developed in over 40 years.

Superior Features

- Highest resolution and resolving power
- Peak signal-to-noise performance
- Fastest and slowest scanning speeds
- Evacuable, purgeable or sealed optics bench
- Largest number of beam ports
- Easy beamsplitter exchange without interferometer alignment
- BRUKER FM far and mid IR technology for VERTEX 70v based on unique wide spectral range optical components
- Step Scan time resolved and modulation options
- Automatic beamsplitter changer BMS-c option for vacuum system VERTEX 80v

Flexibility

The VERTEX Series is built on a fully upgradeable optics platform that is designed with the utmost flexibility in mind. VERTEX spectrometers share a wide range of features, including the BRuker Artificial Intelligence Network (BRAIN), Automatic Component Recognition (ACR), the Plug & Play Ethernet connection and Automatic Accessory Recognition (AAR).

Performance

The VERTEX 80 series FTIR spectrometers are based on the new UltraScan™ interferometer which utilizes precise wear-free linear air bearing scanner with TrueAlignment™ technology to provide PEAK spectral resolution, widest spectral range and Step/Slow-Scan option.

Vacuum

The VERTEX 70v and VERTEX 80v evacuable optics benches can eliminate atmospheric moisture absorptions for ultimate sensitivity and stability. The new automatic beamsplitter exchange (BMS-c) unit accepts up to four different types of beamsplitters which are remotely controlled by the spectrometer operation software OPUS. The BMS-c prepares the VERTEX 80v interferometer for automated measurements in the complete accessible spectral range from the THz up to the UV without break of the optics bench vacuum.

VERTEX Series		VERTEX 70v	VERTEX 80	VERTEX 80v
Performance	Spectral Range	Mid-IR, NIR, Far-IR/THz, Visible/UV 10 cm^{-1} to 28,000 cm^{-1} (360 nm)	Mid-IR, NIR, Far-IR/THz, Visible/UV 10 cm^{-1} to 50,000 cm^{-1} (200 nm)	Mid-IR, NIR, Far-IR/THz, Visible/UV 5 cm^{-1} to 50,000 cm^{-1} (200 nm)
	Spectral Resolution	Better than 0.4 cm^{-1} (apodized), optional 0.16 cm^{-1}	Better than 0.2 cm^{-1} (apodized), optional better than 0.06 cm^{-1}	Better than 0.2 cm^{-1} (apodized), optional better than 0.06 cm^{-1}
Optics Bench	Optics Housing	Standard vacuum or purgeable, includes dry vacuum pump	Standard sealed and purgeable	Standard vacuum or purgeable, includes dry vacuum pump
	Input Ports	Up to 2	Up to 2	Up to 2
	Output Ports	Up to 5	Up to 5	Up to 5
	Sample Compartment	Vacuum or Purgeable	Purgeable	Vacuum or Purgeable
	Accessory Recognition	Standard	Standard	Standard
	Component Recognition	Standard	Standard	Standard
Optional Components & Electronics	Detectors internal	Up to two 24 bit dual-channel ADC DigiTect™	Up to two 24 bit dual-channel ADC DigiTect™	Up to two 24 bit dual-channel ADC DigiTect™
	Detectors external	Four, multiplexed up to 16	Four, multiplexed up to 16	Four, multiplexed up to 16
	Interferometer	RockSolid™	UltraScan™	UltraScan™
	Sources	Internal MIR, optional Tungsten NIR and external water cooled MIR, Tungsten and Hg-Arc	Internal air cooled MIR, optional Tungsten NIR and external water cooled MIR, Tungsten, Hg-Arc and air cooled Deuterium	Internal MIR, optional Tungsten NIR and external water cooled MIR, Tungsten, Hg-Arc and air cooled Deuterium
	Dual Channel Electronics	Standard	Standard	Standard
	Interface	Ethernet	Ethernet	Ethernet
	Bolometer	2 optional	1 optional	2 optional
	Internal Validation Unit and Aperture Wheel	Standard	Standard	Standard
Dedicated Techniques	Rapid Scan	>70 spectra/sec at 16 cm^{-1} spectral resolution	>110 spectra/sec at 16 cm^{-1} spectral resolution	>110 spectra/sec at 16 cm^{-1} spectral resolution
	Slow Scan & Step Scan	100 Hz (0.0063 cm/sec), Phase modulation and internal demodulation, Temporal resolution 6 µsec/2.5 nsec	10 Hz (0.00063 cm/sec), Phase modulation and internal demodulation, Temporal resolution 6 µsec/2.5 nsec	10 Hz (0.00063 cm/sec), Phase modulation and internal demodulation, Temporal resolution 6 µsec/2.5 nsec
External Accessories	HYPERION Series FTIR Microscopy and Imaging System, RAM II FT-Raman and PL II Photo-Luminescence Modules, PMA 50 Polarization Modulation Compartment, HTS-XT High Throughput Module and TGA-IR Coupling			
Software	Integrated OPUS operation and evalution software, fully validated, IQ/OQ/PQ test standards, 21 CFR Part 11 compliant			

Covered by one or more of the following patents: DE102004025448; DE19940981.
Additional patents pending.

Bruker Optics is ISO 9001 and ISO 13485 certified.

Laser class 1 product.

www.bruker.com/optics

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