The VERTEX 70 series FT-IR spectrometers offer unmatched performance and versatility for demanding analytical and research applications.

- Near IR, visible and far IR/THz spectral range extensions
- **NEW!** Wide range MIR-FIR beamsplitter covering 6000 to 10 cm⁻¹ in one step
- Wear-free RockSolid™ interferometer
- Remotely selectable up to 5 exit and 2 input beam ports
- Vacuum optics VERTEX 70v
- Easy beamsplitter change without active interferometer alignment
- Automated internal/external sources and detectors switching option
- DigiTect™ Parallel 2-channel 24-bit dynamic Range ADC
- Automatic optical components recognition

**VERTEX 70: Unmatched FT-IR Performance**

The VERTEX 70 is a fully digital FT-IR spectrometer series for demanding R&D applications. Its innovative design results in the highest flexibility and highest performance. The data acquisition is based on two channel delta-sigma ADCs with 24-bit dynamic range, which are integrated into the detector preamplifier electronics. This advanced DigiTect™ technology prevents external signal disturbance and guarantees the highest signal-to-noise ratio.

**Wide Spectral Range**

The VERTEX 70 series can be optionally equipped with optical components to cover the spectral ranges from 15 cm⁻¹ (10 cm⁻¹ for VERTEX 70v) in the far IR/THz, through the mid and near IR up to the visible/UV at 28,000 cm⁻¹. With its pre-aligned optical components and permanently aligned RockSolid™ interferometer, range change is easy and maintenance free.

**BRAIN: Bruker Artificial Intelligence Network**

A network of intelligent functions such as recognition of sampling accessories and optical components, automatic set up and check of measurement parameters makes FT-IR spectroscopy easy, fast and reliable. In addition, the permanent online check of spectrometer components keeps fault diagnostics and maintenance simple. A full suite of software tools ensures this functionality.
Automatic Component Recognition
The sources, detectors and beamsplitters on the VERTEX 70 - 70v are electronically coded to be recognized by the instrument and appropriate experimental parameters are automatically loaded. In addition, if two conflicting components are installed at the same time, the VERTEX 70 series will recognize this and inform about the mismatch.

Vacuum Optics
With the evacuable optics bench of the VERTEX 70v vacuum FT-IR spectrometer, PEAK sensitivity in the mid-, near and far IR/THz regions is obtained without the fear of masking very weak spectral features caused by water vapor or CO₂ absorptions. Outstanding results, e.g. in the area of nano-science research down to sub-monolayers, can be obtained with the new VERTEX 70v vacuum FT-IR spectrometer. The dry vacuum pump which is included in the instrument delivery provides a vacuum level of less than 0.2 hPa (mbar) within minutes.

Plug & Play: Easy Set Up
All over the world, no matter where you are, plug in the power cord and the Ethernet connection, and the VERTEX 70 is ready for operation. The Ethernet connection to the VERTEX 70 also offers the possibility to control the spectrometer via your network or the World Wide Web.

Spectral Resolution
The standard spectral resolution of better than 0.4 cm⁻¹ is suitable for most applications for solid, liquid and even gaseous samples. However, should the needs of your application change, the spectrometer can be upgraded to a resolution of 0.16 cm⁻¹.

Versatility
The innovative optics design of the VERTEX 70 series results in the most flexible and expandable FT-IR spectrometer available. With an easily maintained, sealed and desiccated or evacuable (VERTEX 70v) optics bench, the highest available sensitivity in the mid-, near- and far IR regions can be obtained on a spectrometer requiring no purge gas or cooling water.

The VERTEX 70 - 70v offers outstanding flexibility. Five beam exit ports on the right, front and left side and two beam input ports on the right and rear side of the optics bench are optionally available. This allows simultaneous connection of, for example, a Hg-arc source at the rear side, the RAM II FT-Raman module at the right, a fibre optics coupling at the right front side and the HYPERION IR microscope at the left side. In addition, a liquid He cooled FIR bolometer detector can be attached at the front-left port.

User-changeable components in the different compartments are easily accessible.

RockSolid™ interferometer used in the VERTEX 70 - 70v FT-IR spectrometer.

VERTEX 70 and HYPERION 2000 IR microscope. Up to five beam exit ports are available.