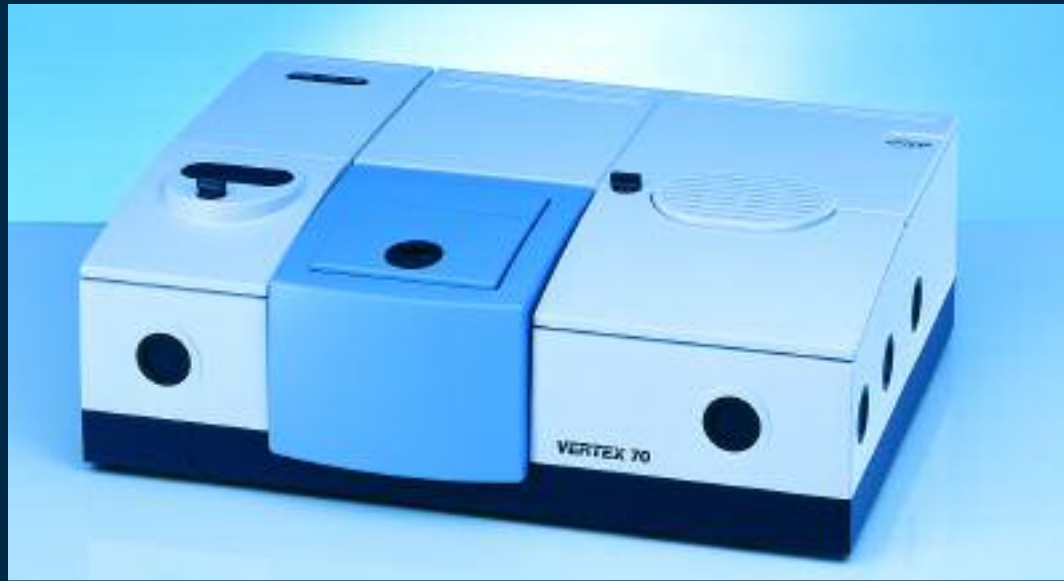


thinkforward

Unmatched Performance and Versatility: introducing the new **VERTEX 70** FT-IR spectrometer for demanding analytical and research applications.



VERTEX 70

- Highest sensitivity with 24-bit dynamic range ADC
- Remotely selectable 5 exit and 2 input beam ports
- Easy beamsplitter change without interferometer alignment
- Near IR, visible and far IR spectral range extensions
- Automated internal dual sources and dual detectors option
- Automatic optical components recognition

VERTEX 70: Unmatched FT-IR Performance and Versatility

The new **VERTEX 70** is the first fully digital FT-IR spectrometer for demanding R&D applications. Its innovative design results in the *highest* flexibility and *highest* performance. The data acquisition is based on free running delta-sigma ADC's 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** can be optionally equipped with optical components to cover the spectral range from 30 cm^{-1} in the far IR, through the mid and near IR up to the visible spectral range at 25,000 cm^{-1} . With its pre-aligned optical components and the 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** are electronically coded to be recognized by the instrument and the appropriate experimental parameters are automatically loaded. The user doesn't need to know which parameter set to load; it's all done automatically. In addition, if two components are installed that conflict each other, the **VERTEX 70** will recognize this and inform you about the mismatch.



VERTEX 70 can accommodate external accessories at its right and left side beam exit ports.



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



The large sample compartment accommodates virtually any FT-IR sampling accessory.



Two internal detectors are selectable under software control.



VERTEX 70 and **HYPERION 2000** FT-IR microscope

VERTEX 70

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 instrument combines the ease of use and reliability of the multi-range power supply. The Ethernet connection to the VERTEX 70 also offers the possibility to control the spectrometer via your intranet or the World Wide Web.

Spectral Resolution

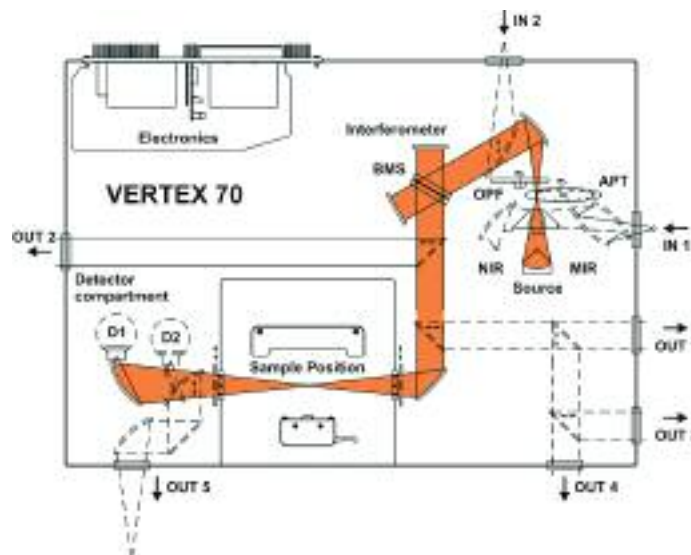
The standard spectral resolution of better than 0.5 cm^{-1} is suitable for most applications

for solid, liquid and even gaseous samples. However, should the needs of your application change, the spectrometer can be upgraded to a boxcar resolution of 0.16 cm^{-1} .

Versatility

The innovative optics design of the VERTEX 70 results in the most flexible and expandable FT-IR spectrometer available. With an easily maintained, sealed and desiccated 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 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 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, the HYPERION™ IR microscope at the left side. In addition, a FIR bolometer can be attached at the front-left port.



VERTEX 70 optics layout



Beamsplitters are easy to exchange and stored inside the optics bench.



QuickLock baseplates allow easy accessory exchange and automatic accessory recognition (AAR).



The dual DigiTect™ detectors provide superior performance and allow easy manual exchange by the user.



Ethernet connectivity transmits data from the spectrometer's fully digital components to the OPUS software. The plug-and-play electronics brings ease-of-use to FT-IR spectroscopy.

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