



- **MATRIX-MF** with a diamond ATR probe (patented)

Specifications

Performance:

- Spectral Range: 7,500 - 370 cm^{-1} with standard KBr beamsplitter and TE-DTGS detector
- Measuring Speed: Up to 5 scans/sec at 8 cm^{-1} resolution
- Resolution: Better than 1.0 cm^{-1} (apodized)
- Wavenumber Reproducibility: Better than 0.04 cm^{-1}
- Wavenumber Accuracy: Better than 0.1 cm^{-1} @ 2000 cm^{-1}
- Photometric Accuracy: Better 0.1% T

Design:

- Housing: Rugged, compact, sealed and desiccated optics' housing
- Interferometer: RockSolid, permanent alignment, high stability with cube corner retro-reflectors and non-wearing, non-contact bearing for long life
- IR Source: Air cooled MIR source (12 V, 20 W)
- Laser Class: Class 1
- Beamsplitter: KBr substrate with proprietary coating
- Scanner: Mechanical, frictionless bearing (no compressed air required), 4 selectable mirror velocities

- Detector: liquid nitrogen-cooled MCT detector, optional: TE-DTGS detector or closed cycle MCT detector
- Validation: IVU - internal validation unit for performance qualification (PQ)
- Probe adaption: Rugged Bruker Quick Connector (BQC) or alternatively SMA adaptations

Electronics:

- Data Acquisition: Integrated acquisition processor for PC-independent data acquisition, 24 bit A/D converter. Unlimited distance to data system.
- Automation: Microprocessor controlled optical bench, digital speed control, automatic gain selection, aperture changer, advanced system check, computer-controlled positioning of the fiber optic multiplexer
- Adaptations: Adaptation to process control systems via optional interfaces (4-20 mA, Industrial Ethernet, Modbus, Profibus DP etc.)

Dimensions:

- Spectrometer Module: 32 x 42 x 24 cm (w x d x h)
- Weight: 24 kg (spectrometer module with fiber optic multiplexer)
- Power Requirements:
 - Optical bench: 100 - 240 VAC, 50/60 Hz, 100 W
 - PC data system: 110/220 V, 50/60 Hz, 200 W

Operating Environment:

- Temperature: 5°C to 35°C
- Humidity: < 70% non-condensing

Data System:

- PC Configuration: PC data system (see separate data sheet), notebook (optional)

Software:

- OPUS: Spectroscopy Software, easy to use, fully GMP compliant, fully 21 CFR part 11 compliant
- Optional OPUS packages:
 - OPUS/LAB, Software package for QA/QC
 - OPUS/IDENT, Software package for identification of raw materials
 - OPUS/QUANT, Software package for quantitative analysis

Laser class 1 product.
Bruker Optics is ISO 9001 certified.

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