● **TANGO** FT-NIR Spectrometer for Transmission Measurements

Specifications

Rugged NIR analyzer with sealed and desiccated optics for routine quality control. The analyzer is equipped with a temperature controlled sampling slot for the transmission measurement of samples in disposable vials.

The analyzer is either equipped with a built-in data system with a touch screen or optionally available with an external PC-based data system. The easy-to-use and GMP compliant TANGO software package allows qualitative and quantitative analysis.

Design

- Housing: rugged, sealed and desiccated housing
- NIR source: air cooled Tungsten source, average lifetime 9,000 h, pre-aligned, easily exchangeable by operator
- Interferometer: RockSolid™, frictionless bearing, permanently aligned, Quartz substrate beamsplitter with proprietary coating 10 years warranty on the moving parts of the interferometer
- Laser: Solid State Laser (10 years warranty)
- Detector: InGaAs diode, TE-cooled and temperature-stabilized
- Sample presentation: transmission measurements in disposable 8 mm glass vials, background measurement w/o removing the sample

Innovation with Integrity

FT-NIR

Performance

- Spectral range: 11,500 - 4,000 cm^{-1}
- Resolution: better than 2 cm^{-1}
- Wavenumber reproducibility: better than 0.04 cm^{-1}, at 7,306.74 cm^{-1}
- Wavenumber accuracy: better than 0.1 cm^{-1}, at 7,306.74 cm^{-1}
- Photometric accuracy: better than 0.1% T
- Sample temperature, range: 20° C - 80° C
- Sample temperature, reproducibility: ±0.1° C

Electronics

- Data acquisition: 24-bit A/D converter
- Automation: microprocessor controlled optical bench, digital speed control, automatic gain selection, internal background, advanced system check
- Performance check: permanent on-line diagnostics of all optical components, automation units and sampling accessories
- Connectivity: Ethernet interface, 10/100Mbps

Dimensions

- Spectrometer (w x d x h): 309 mm x 438 mm x 175 mm (plus max. 250 mm height for monitor)
- Weight: 23.1 kg (18.6 kg w/o data system)

Operating Environment

- Degree of protection: IP53 (TANGO with external PC)
- Operating temperature: 5° C to 35° C
- Storage temperature: -20° C to 70° C
- Operating relative humidity: < 80% non-condensing
- Power requirements: 100 to 240 VAC, 50/60 Hz, 75 W (typical 40 W)
- Regulatory certification and compliance: CE, WEEE and RoHS

Data System

- Embedded PC (1,86GHz, 4GB RAM, 64GB SSD) with 12.2″ touch display (capacitive); optional external PC data system

Validation

- TANGO software: the software package includes functions that facilitate the use of the analyzer in a 21 CFR Part 11 compliant environment
- Instrument qualification: TANGO software supports Operational Qualification (OQ) and Performance Qualification (PQ)
- Internal validation unit: filter wheel with reference standards, for automatic PQ tests
- Validation manual: complete hardware and software validation documentation is available as an option
- Service contracts: Preventive maintenance contracts and validation services are available as an option

Options

- IN601-T0U/F: Sample position w/o temperature control (RT+15°C)
- IN601-T2U/F: Sample position with temperature control from RT+15°C to 140°C

Software

- GMP compliant TANGO software with user-friendly interface
- Product based operation (Barcode reader friendly)
- Qualitative and/or quantitative evaluations (no method development)
- Customizable analysis reports
- Data exchange via USB stick and/or LAN

Product selection by pressing the respective icon

After the measurement the results are displayed graphically

Bruker Optics is ISO 9001 and ISO 13485 certified.

Laser class 1 product.

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

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