



FITNIR BENCHTOP TECHNICAL SPECIFICATIONS

**Versatile FT-NIR analyzer
designed for your industry.
The most reliable FT-NIR
measurements for process optimization.**

FIT/NIR
The Next Generation of Process Analyzers

FITNIR Benchtop Technical Specifications

Spectroscopic Performance (typical, at 25 °Celsius)

- Spectral range with DTGS detector 3,700 to 15,000 cm^{-1}
Spectral range with InAs detector 3,700 to 12,000 cm^{-1}
Spectral range with InGaAs detector 3,900 to 11,000 cm^{-1}
- Resolution better than 0.7 cm^{-1}
- Apodized resolution adjustable 1 cm^{-1} to 64 cm^{-1} , in increments of 2
- Signal-to-noise ratio (root-mean-square, 60s, 16 cm^{-1} , at peak response) with DTGS detector : > 100,000: 1
- Signal-to-noise ratio (root-mean-square, 60s, 16 cm^{-1} , at peak response) with InAs detector : > 500,000: 1
- Signal-to-noise ratio (root-mean-square, 60s, 16 cm^{-1} , at peak response) with InGaAs detector : > 600,000: 1
- Signal sampling: 24-bit ADC
- Short-term stability (@ 8,000 cm^{-1}): < 0.09 %
- Temperature stability (@ 8,000 cm^{-1}): < 1 % per °C
- Frequency repeatability (@ 7,300 cm^{-1}): < 0.006 cm^{-1}
- Frequency accuracy (@ 7,300 cm^{-1}): < 0.06 cm^{-1}
- Absorbance reproducibility (toluene): < 0.002 AU

Application Software (computer not included)

- Operating system compatibility Win 7
- Standard software: HORIZON MB™ FTIR
- Optional modules: Horizon MB Professional, Quantify, Library IR Interpretation, Reaction Monitoring, Security (21CFR part 11 compliance), Scripting, QA

Optical Bench

- Beamsplitter material ZnSe (non-hygroscopic)
- Patented double pivot interferometer mechanism. High throughput Michelson interferometer with protective cover.
- Optical path fully purgeable
- Source, Quartz Halogen with electronic stabilization, expected half life, 10 years
- Metrology: Solid-state laser (no scheduled maintenance required)
- Detector module: DTGS
- Optional detector modules, InAs and extended InGaAs both with integrated cooling
- Open sample compartment configuration: Arid-Zone, center focus
- Sample compartment dimensions: 20 cm x 14 cm plate, 8.7 cm beam height
- Sample compartment mounting: 3-point positioning guide or 3 point kinematic adjustable

Accessory Information Interface

- USB Connection between PC and accessory
- Temperature reading (when applicable)
- Temperature adjust (when applicable)
- ID serial number
- Factory acceptance test with data
- Instruction manual

Data Communication

- Hardware Port Ethernet, 10/100 Mbps

Instrument Enclosure

- Casting: Rugged all-metal with integral handles
- Size: 43.5 cm (W) x 28 cm (D) x 37 cm (H)
- Weight: 24 kg

Environmental

- Universal power supply: 100-240 VAC, 50/60 Hz
- Power consumption: 65 W
- Operating temperature: 10 °C to 35 °C
- Operating relative humidity: 5% to 80%, non-condensing
- Regulatory certification and compliance: TUV and CE

Documentation

- cGMP IQ-OQ protocol templates (optional)
- User manual
- Quick-start guide



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