

DATASHEET

ARCOptix FT-IR *Rocket*

Mid-IR Fourier-transform spectrometer (2-6 or 2-12 μm)



If you are looking for high performance & compact Mid-IR spectrometer, that can operate both free-space or with IR optical fibers, the ARCOptix FT-IR Rocket is the instrument that you need. Thanks to its permanently aligned interferometer and solid-state reference laser, the FT-MIR Rocket offers excellent stability in both intensity and wavelength scales. Two spectral ranges are available, depending on your needs for high sensitivity or broad spectral range.

■ Benefits

- Two detector choices: 2-6 μm or 2-12 μm
- Very good sensitivity (2-stage & 4-stage cooled MCT detectors)
- High resolution of 4 cm^{-1}
- Excellent stability in intensity and wavelength
- Removable fiber coupler for operation with fibers or free-space IR beams

■ Applications

- Mid-IR Optical Spectrum Analyzer (OSA) for MIR Lasers & LEDs
- Liquid, thin-film or gas measurement
- Material identification and quantification in various fields such as geology, food and beverage industry, ...

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Specifications

Models	FT-MIR 2-6	FT-IR 2-12
Beam-splitter material	CaF ₂	ZnSe
Spectral Range [cm ⁻¹]	5000 - 1700	5000 - 830
Spectral Range [μm]	2-6	2-12
Detector Type	MCT (2-TE cooled)	MCT (4-TE cooled)
Detector D* [cm Hz ^{1/2} W ⁻¹]	>1x10 ¹¹	>2.5x10 ⁹
SNR	> 1:5'000 ⁱ	> 1:3'000 ⁱⁱ
Recommended fiber	CIR (chalcogenide) fibers (1-6μm)	PIR (polycrystalline) fibers (3-18μm)
Interferometer type	Permanently aligned, double retro-reflector design	
Resolution (unapodized) [cm ⁻¹]	4	
Wavenumber repeatability	<10PPM	
Scan frequency	1 spectrum / second	
Control laser	Temperature-stabilized solid-state laser @850nm	
A/D Converter	24 bit	
Amplifier	4 gain levels low noise trans-impedance amplifier	
Operating temperature	10°C-40°C	
Free-space interface	Ø 12.7mm collimated (max ~30mrad half angle)	
Removable fiber-optic coupler	Fiber core up to Ø 1mm, NA=0.25, SMA 905 connector	
Purge gas connectors	2 connectors for 4mm OD tubes	
Power requirement	7.5V-12V / 6W	
Communication Interface	USB 2.0	
Software Interface	Windows XP/7/8 API for controlling the instrument via our DLL	
Dimensions	180mm x 160mm x 80mm	
Weight	1800 g	

ⁱ Measured with a silicon carbide (SiC) source (~1400K) through a 500 μm core diameter CIR fiber, 5s measurement, around peak sensitivity wavelength, Norton-Beer weak apodization.

ⁱⁱ Measured with a silicon carbide (SiC) source (~1400K) with f=18mm reflector directly shining into the free-space input port, 5s measurement, around peak sensitivity wavelength, Norton-Beer weak apodization.

SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT NOTICE.

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▪ Ordering Information

The FT-MIR Rocket is available in different versions:

FTMIR-L1-**BBB**-2TE-R4

BBB: cut-off wavelength (060 or 120)

FTMIR-L1-060-2TE-R4: with temperature-stabilized laser, detector cut-off 6 μ m, 2-stage cooled detector, 4cm⁻¹ resolution.

FTMIR-L1-120-2TE-R4: with temperature-stabilized laser, detector cut-off 12 μ m, 2-stage cooled detector, 4cm⁻¹ resolution.