

Specifications for compact FTIR-NIR with ATR

The instrument must be sealed and desiccated optical unit. Offered system must be capable to use without any purging gas for sample compartment/optics/detector.

Interferometer	Dynamically aligned/ Dyna Scan/Michelson Sealed and desiccated interferometer optical system
Beam Splitter	Germanium coated KBr beam splitter
Wavelength Range	11000 – 350 cm^{-1} or better
Spectral Resolution	Resolution better than 0.4 cm^{-1} without using any external J-stop card
Source	High intensity, Long life source covering entire MIR range
SNR	50000:1 or better Peak to Peak 1 minute
Laser	Temperature controlled solid-state Near-IR diode laser
Wavenumber Precision	0.01 cm^{-1} or better
Wavenumber accuracy	0.1 cm^{-1} at 2000 cm^{-1} or better
Detector	DTGS detector or equivalent
Performance Verification	Automatic Inbuilt NIST-traceable 1.5 MIL polystyrene film with 5 years validity
Other Specifications	<ul style="list-style-type: none"> ▪ Instrument must have Optics Guard system for extended desiccant life and additional optical component protection. ▪ Instrument must have Atmospheric Compensation to minimize effect of atmospheric water and CO₂ on the sample spectra without the need for reference or calibration spectra. ▪ The instrument must have provision to attach the third-party PIKE, SPECAC, etc. accessories.
Software	A single software platform incorporates all the functions required for infrared analyses, Such as spectral comparison algorithm and Euclidean searching instrument control, data manipulation and analysis, and flexible report utilities.
Warranty	3 Years for the instrument and 7 year warranty for interferometer , laser and source.
Heated ATR (Optional)	System should be offered with diamond crystal with at least 180 degree C. System should be offered with temperature controller and software which should control heating programmes.
PC requirement	Branded Desktop PC with Intel i7, 7 th generation, 16 GB RAM and 1TB HDD or integrated PC with Windows 10 OS, Keyboard, Monitor, Mouse, UPS 2 KVA with 30 minutes back up. Suitable Vibration free table with steel frame.
Transmission Kit	Hydraulic Press, Pellet Press, Mortar, Pestle, Die Set, Pellet Holder
FTIR Library	IR spectral library to be provided.
Specular Reflectance	Specular reflectance accessory to be offered along with aluminum reference mirror.
Polarizer accessory	Different angle polarizer with Zinc Selenide/KRS5 material for polarization studies needs to be offered.
Hyphenation	The instrument should be upgradable to hyphenation system
Installation & demonstration	Free of Cost
Others	<ul style="list-style-type: none"> ▪ Operative and service manuals (hard copies) to be supplied. ▪ All the required Accessory/consumables must be supplied to run the instrument smoothly even it is not mentioned here. ▪ List of 5 users minimum should be provided with Name, contact details and Email ID. PO must be attached.

	<ul style="list-style-type: none">▪ All the above-mentioned specifications should be supported by authentic literature and printed brochures from the manufacturers only.
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