FTIR Specifications

High-end advanced PC based system FTIR system with Windows based software for operation on 220V/ 50 Hz. FTIR with Monolithic Diamond ATR and other accessories as mentioned below as standard should be quoted.

Measurement	Spectrum measurement, continuous measurement, atmospheric correction measurement, simple measurement mode (transmission & reflectance) **Feature compatibility of-** Spectrum search, peak search, text search, combination search, setting of search conditions, search of user library and commercial library, creation of user library. **Instrument should be capable of-** Multi-point calibration curve method, CLS quantitative method, Photometrics, Recalculation function for quantitative and photometric results **Compatible with control Functions like-** Normalization, baseline correction, smoothing, derivative, X-axis range change, data correction, data points thinning, interpolation, wavenumber-wavelength conversion, X adjust, time-temperature conversion, peak pick, point pick, film thickness calculation, data calculation, degree of coincidence, deconvolution, Fourier transform, Kubelka Munk conversion, ATR correction, advanced ATR correction, Kramers Kronig transformation, atmosphere correction, degree of coincidence calculation.
ATR (Monolithic quality is must)	FTIR with Monolithic Diamond ATR must be quoted to analyze samples like films, liquids and solids operational for the measurement range of 7,800cm^{-1} to 400cm^{-1} without compromising the accuracy and resolution.

Features	1. Self-Diagnostic
	2. Self-Monitoring function
	3. Instrument should offer a total of more than 20 application programs as standard, making it easy for operators with minimal FTIR experience to analyze samples by simply selecting the analysis purpose and accessory. There is no need to set parameters enabling the measurement of
	4. multiple samples with only one click.
	   a. Includes an identification test program convenient for routine inspections as standard.
	   b. Includes a pass/fail judgment program specialized for contaminant analysis as standard.

Additional Features	Peak split, 3D recalculation, spectrum extraction from 3D data
Wavenumber Range	350 cm^{-1}- 7800 cm^{-1} 400 cm^{-1}- 7800 cm^{-1} with ATR without compromising the accuracy and resolution.
Beam Splitter	KBr with high quality Germanium Coating for resistance from humidity
Data Sampling	Temperature-controlled semiconductor laser
Interferometer	Michelson's Interferometer with dynamic alignment with high stability (30° Incident Angle resulting better repeatability of instrument). Sealed Dry Interferometer. Mirror speed of 2.8mm/sec.
Light Source	Ceramic High Energy

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Detector	Highly Sensitive Lithium tantalate detector
Wavenumber Precision	0.0005 cm^{-1} or better
Wavenumber Accuracy	0.1 cm^{-1}
Resolution	0.9 cm^{-1} to 16 cm^{-1} or better with minimum 5 steps
S/N Ratio	$10,000:1$ or better (peak-to-peak, 4 cm-1 resolution, in a neighborhood of $21,00$cm^{-1}, 1 minute scan)
Warranty	24 months warranty on complete system. And 10 years warranty on hardware parts: includes above standard warranty and covers parts including IR Source; Laser; Detector, Interferometer and Electronics & minimum 24 months on accessories like ATR accessory.
Humidity Resistant Window	FTIR Window should withstand humidity level up to 90% with any condensation.
Additional Accessories	- Compact PC Intel Core i5 Processor, 16GB RAM, 512 GB SSD, Win 10 Licensed OS, 21-inch Branded Monitor, Wireless keyboard with mouse including Licensed Microsoft office 2021, & Licensed PDF reader - Branded B&W Laser Printer 3 KVA (36V) Online UPS with Batteries for approx. 30 minutes backup - KBR Die set with manual Hydraulic Press - Standard library of organic compounds, polymer, pharmaceutical, and inorganic compounds, food additives and contaminants etc- 01 No
After sales Support	- The Tenderer must have a local dedicated team, consists of sales, engineers and application engineers from direct factory/manufacturer for optimum support of the system. - Engineer visit should be within 72 hours in case of any issue raised as complaint. Toll Free Number should be available for fast reach to the vendor/ principle. - OEM authorization must be provided for participation in the tender - The supplier must provide training for the users of the instruments at site for 2-3 days after installation and commissioning.