

## **Specifications of FTIR with ATR & liquid cell data retrieval system and UPS**

1. Spectral range: 500 to 6000  $\text{cm}^{-1}$
2. Spectral resolution: 0.5  $\text{cm}^{-1}$  to 2  $\text{cm}^{-1}$
3. Wavenumber/ Wavelength Accuracy: 0.05 to 0.5  $\text{cm}^{-1}$
4. Signal to Noise ratio: 23,000:1 to 55000:1 or better.
5. Wavenumber/wavelength Precision/ repeatability: 0.0005 - 0.01  $\text{cm}^{-1}$
6. Beam/Light Source: Long life (at least 5 years) source
7. Beam Splitter: ZnSe or KBr with moisture protection
8. Interferometer: Long life (at least 10 years) Interferometer
9. Detector: Temperature controlled DLaTGS (Deuterated Lanthanum  $\alpha$  alanine dopped Triglycine Sulfate) or DTGS (Deuterated-Triglycine Sulfate)
10. Attenuated Total Reflectance (ATR) accessory: Diamond ATR
11. Humidity protection: Completely sealed and desiccated optical unit
12. Software: should incorporate all the function required for data acquisition, data processing, instrument control, interpretation, comparison, spectral library etc.
13. Connection: Branded data retrieval system (i-5 Processor, 8-12 GB RAM, 1-2 TB hard disc with Pre-Loaded Windows), 1-3 KVA UPS with at least 15-30 min back up. Upgraded window-based software.
14. Conditions:
  - Warranty: At least 1-year warranty on complete instrument, at least 10 Years Warranty on Interferometer and 5 Years Warranty on source.
  - There should be minimum 5 installations of the instrument in Indian Public Sector or ICAR or government research institutes. Provide the list of users with contact details (Organization name and address, Email ID and office contact/mobile number) indicating the make and model number supplied.
  - Bidder must provide detailed printed catalogues highlighting each of the required specifications in the same along with their technical bids failing which they are liable to be technically rejected.
  - Demonstration of Instrument should be arranged, if required.
  - Should provide free of cost installation, demonstration and training at ICAR-DFR, Pune.