



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai - 400076

Technical Specifications of UV-VIS Spectrophotometer

RFx No. 6100001262 (Reference No.1000029004)

1. Must be a scanning spectrophotometer covering the wavelength range ≥ 190 to ≤ 1100 nm
2. The system should be of a double-beam
3. The spectrophotometer must have variable spectral bandwidth between 0.5 to 10 nm
4. The optical system must be sealed and quartz-coated
5. Silicon photodiode detectors for sample and reference beams
6. Light source must have 3 years warranty and It is desirable that the source lamps are pre-aligned and user replaceable
7. Photometric range must be >3 A
8. Baseline flatness: ± 0.001 A or better
9. A stray light of $\leq 1\%T$ at 198 nm, $\leq 0.05\%T$ at 220, 340 or better is must
10. Wavelength accuracy at least ± 0.8 nm or better
11. Scanning speed: <1 to 5000 nm/min or better
12. Photometric accuracy of ± 0.005 or better at 1A and ± 0.001 or better at 2A is necessary
13. Photometric noise at 700nm (0A) must be $\leq 0.0001A$
14. Scan modes- Absorbance, % Transmittance, % Reflectance, log (Abs)
15. The ability to correct for blanks in real time is essential. This necessitates 2 sample holders in the sample compartment, one for the sample and one for the reference.
16. The sample compartment must be completely sealed to prevent accidental spillages into the optical system and it should accommodate a wide array of accessories.
17. Optics should be contained in a sealed enclosure for extended life

Accessories to be supplied-

1. A single cell Peltier system with water recirculation pump. Temperature should be in the range of 0-100 °C. Peltier control system comes with stirrer.
2. The system must have high quality branded PC with following configuration:
Intel i5 professor or better, more than 2.4 GHz Turbo, atleast 16 GB RAM, 512 GB SSD, CD/DVD Writer, 23.8inch min. TFT display, 2 or more USB 3.0, 4 or more USB 2.0 (or better); 2x RJ-45 network; 1 Serial; 1 VGA; 2 display port; Line-in (stereo/microphone), Operating system: Windows 10 or better
3. Flow cell with auto sipper accessories with peristaltic pump

4. Magnetic film holder accessories
5. Two Sets of quartz cuvette and 100 no of disposable cuvettes
6. The system must have the provision to accommodate the accessories
7. The total system must be quoted with 3 years warranty and 2 years AMC post warranty