



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Reference (PR No.10000017917- RFx No. 6100000777)

Technical Specifications for UV-VIS- NIR with Diffuse Reflectance Spectrophotometer

1. Wavelength Range and Spectral Bandwidth : 85nm–3300nm^[SEP]:
2. Resolution^[SEP] of 0.1 nm^[SEP]
3. Wavelength accuracy of UV/VIS region +/- 0.2 nm; NIR region : +/- 0.8 nm and repeatability of UV/VIS region : +/- 0.08 nm NIR region : +/- 0.32 nm
4. Wavelength scanning speed of UV/VIS region approx. 18000 nm/min. NIR region approx. 700000 nm/min in wavelength scanning^[SEP] UV/VIS region Max. About 4500 nm/min. NIR PMT/InGa As region Max. about 9000 nm/min. NIR Pbs region. Max. About 4000 nm/min (excludes time required for switching)
5. Automatic light source switching synchronized with wavelength
6. Double beam Photometric system
7. 50W halogen lamp (minimum of 2000 hr Life)
8. Grating – grating type double monochromator Concave diffraction monochromator.
9. Main monochromator. Aberration correction type Czerny Turner monochromator. Diffraction gratings are high performance blazed holographic gratings
10. Detector :UV/VIS region. PhotomultiplierR-928 NIR region. In
11. GaAs photodiode/cooled PbS optical conductive element Sample Compartment : Inside dimensions 150 W x 260, D x 140 H (mm)
12. Temperature: 15 Deg.C – 35 Deg.C
13. Ambient Humidity: 35-80% (no condensation, less than 70% at temp. above 30°C 70% at temp. above 30°C
14. UV 10mm Cell GS Kit
15. Thermoelectric Single-Cell Holder



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16. Peltier Accessory (Rapid Peltier temperature controlled single sample holder ~ - 15 degree C to ~ +105 degree C, with stir and stir bar, water circulator and software driver)
17. Powdered Sample Holder for Integrating Sphere
18. Super Micro Black Cell (50-400 uL)
19. Film Holder
20. Diffusive reflectance accessory for carrying out analysis on powdered, solid or gel samples in the wavelength range preferably 200-900 nm: The accessory should have features like Automatic recognition, system suitability checks, automatic optimization, zero alignment, zero set-up, plug-in module design: (i) Integrating Sphere Attachment 70mm and above diameter and is ISO compliant (ii) multi-purpose sample holders for different samples, KBr powder etc.
21. Computer (minimum of i5, 8G RAM, 1TB Hard drive, and 22-inch monitor) and appropriate software for running the instrument
22. Appropriate software for running the UV-vis NIR instrument
23. Instrument should be supplied with Minimum 3 years comprehensive warranty