

### Technical Specification for UV-Vis Spectrophotometer

Sl. No	Specifications	Technical requirement	Remarks/Compliance	
			Yes	No
1	Design of optics	Double-beam with sample and reference cuvette positions; Application Focused Beam Geometry; Type of Monochromator used may be specified		
2	Light Source	Xenon flash lamp or any other source but with atleast 3-year warranty		
3	Detector	Dual silicon Photodiode		
4	Accuracy	$\pm 0.8$ nm or higher (full range 190 to 1100 nm) $\pm 0.5$ nm or higher (546.11 nm mercury line)		
5	Wavelength Range	Min 190 nm-- atleast a max of 1100 nm		
6	Scanning Speed	<1 to 6000 nm/min		
7	Resolution	>1.5 (peak-to-valley ratio; toluene in hexane)		
8	Repeatability	$\leq 0.1$ nm (546.11 nm mercury line, SD of 10 measurements)		
9	Spectral Bandwidth	1 nm and 2 nm;		
10	Data Intervals	10, 5, 2, 1.0, 0.5, 0.2, 0.1 nm		
11	Display Range	0.3 to 4.0 A		
12	Photometric Range	>3.5 A		

		Yes	No
13	Accuracy – Instrument	0.5 A: $\pm 0.004$ A 1A: $\pm 0.006$ A 2A: $\pm 0.010$ A	
14	Stray Light	KCl, 198 nm: $\leq 1\%$ T NaI, 220 nm: $\leq 0.05\%$ T NaNO <sub>2</sub> , 340 nm: $< 0.05\%$ T	
15	Drift (Stability)	$< 0.0005$ A/hr 500 nm, 1.0 nm SBW, 1 hour warm-up	
16	Noise	0A: $\leq 0.00015$ A 1A: $\leq 0.00050$ A 2A: $\leq 0.00080$ A 260 nm, 1.0 nm SBW, RMS	
17	Baseline Flatness	$\pm 0.0010$ A 200–800 nm, 1.0 nm SBW, smoothing	
18	Software	Advanced kinetics features including multi-stage measurement, temperature ramping and comprehensive data fitting options. Integrated calculations provide more data per measurement in Scan, Fixed and Quant, Provide details of the number of licenses	
19	Computer and Printer	Latest version of OS compatible with the software, 500 GB HDD, 4GB RAM, 19 inch LCD or better	

	Power Requirement	Suitable for operation in 220V AC, 50 Hz single phase supply	Yes	No
20		Suitable for operation in 220V AC, 50 Hz single phase supply		
21	Integrating sphere	60mm integrating sphere with Powder cell holder.		
22	Cuvette Holder	Holder for path length from 10mm to 50mm.		
23	Instruments supplied in India (user list)	Please provide details of national laboratories or institutions of national importance where such instruments are supplied with in India		
24	Service support	Direct OEM support for service and application, spare parts should be available In India		
25	Training	Onsite installation and hands on training must be provided		
26	Manuals & optional items	The operation manual with electrical and electronics must be provided and the Other optional items should be quoted and must have the capability to be upgraded on site.		

Note:

1. Compliance statement/table must be provided for the specifications indicated in the remarks column without which the quotation will remain invalid.
2. Any additional details that the company may want to provide may separately be listed.
3. Certification from any of the users of the machine/instrument about the working and quality of machine/instrument may be provided (only from national laboratories or institutions of national importance such as CSIR laboratories, IITs, NITs).