

UV-VIS Spectrophotometer

Technical Features & Specifications

1. The instrument should be a High-resolution (1nm) model
2. It should have Spectral bandwidth of better than 1nm over the complete range of 190 to 1,100 nm to ensures compliance of Resolution standard test of 0.02% v/v Toluene in Hexane prescribed by European Pharmacopoeia
3. Wave length accuracy and reproducibility should be about $\pm 0.1\text{nm}$
4. It should have better Stray light specification of 0.02% T at 220 nm by NaI and 340nm by NaNO₂ meets EP requirement of Absorbance much greater than 2 for 1.2% w/v of KCl solution
5. It should have compliance of wavelength accuracy with 15% w/v Holmium Perchlorate solution in 10% Perchloric acid
6. It should have compliance of Photometric accuracy with Potassium Dichromate solution
7. It should have compliance to second order derivative test with 0.02% v/v solution of Toluene in Methanol
8. It should have security function to make it possible to restrict functions according to the user level
9. It should have Stray Light better than 0.02% T at 220 nm (NaI) and 340nm (NaNO₂)
10. It should have better baseline flatness, less than ± 0.0006 Abs. over the entire range of 190 to 1,100nm
11. The scan speed should have Variable options of 3000nm/min to 2nm/min so as to capture maximum data points, hence to increase the resolution
12. The noise level should be less than 0.00005 Abs. at 700nm
13. The baseline stability should be less than 0.0003 Abs/Hour at 700nm
14. It should have Multi-wavelength Photometric Measurement mode as standard
15. Abs / %T measurement possible at 6 wavelengths simultaneously in Photometric mode
16. It should have Photometric, Multi-Wavelength Photometric, Spectrum, Quantitation, Kinetics and Multi-Component and Bio Method for DNA/Protein Quantitation measurement modes as standard
17. It should have Expanded Photometric range up to -4 to +4 Abs / 0 to 400%, enables high concentration measurement
18. It should have photometric repeatability less than +/- 0.001 Abs at 1Abs.
19. It should have monochromator with High end optics feature with Czerny-Turner mounting for high energy though put and high sensitivity

20. The instrument should have the following hardware validation parameters built-in:
- Wavelength Accuracy
 - Wavelength Repeatability
 - Spectral Bandwidth
 - Baseline Flatness
 - Baseline Stability
 - Noise Level
 - Photometric Accuracy
 - Photometric repeatability
 - Stray Light
21. The spectrophotometer should have facility for 5USB ports for data communication with PC and Printer compatibility
22. Should have USB Pen drive compatibility for data storage and transfer
23. Should have a facility to connect with latest PC configuration for Windows XP base operation and compact foot print
24. Should be supplied with powerful 32-bit Windows XP Professional based Spectroscopy Software as standard
25. The Instrument should allow Semi-automatic testing (i.e., Interactive display for simplified testing of test items)
26. It should allow Automatic Testing (i.e., Automatic measurement and pass/fail evaluation and printing of results.)
27. It should allow Detailed print-out of test results (i. e., Test results printout with spectra and time course data after completion of the test items.)
28. Data can be read with commercial spreadsheet software
29. Instrument Baseline correction should be conducted at smaller intervals and the Date of previous Instrument baseline correction be saved and displayed
30. Lamp ON time should be displayed and can be reset at the time of changing lamp
31. One pair of Quartz cell, 10mm path length, of 1 ml and 3.5 ml Volume
32. Guarantee/ warrantee for three years, including replacement of spares free of cost, if required, in the first year.

Optional Accessories

33. A latest branded PC with laser printer
34. Appropriate UPS for power back-up for the instrument & PC