

UV-Visible Spectrometer



Brand : Shimadzu
Model : UV-2600
Location : K647 Room, 6th Floor, Chaloeprakiet Building, Phyathai Campus
Custodian : PRADUP MESAWAT

Description and Specification:

Photometric system	Double-beam optics
Photometric system	Czerny-Turner mounting, Single monochromator Lo-Ray-Ligh grade blazed holographic grating
Detector	R-928 Photomultiplier
Light source	50 W halogen lamp, light square auto position adjustment built in
Setting wavelength range	185 ~ 1400 nm
Measurement wavelength range	185 ~ 900 nm 220 nm to 1400 nm when the ISR-2600Plus Integrating Sphere Attachment is used
Wavelength accuracy	±0.1 nm (626.1 nm 0.2), ±0.3 nm (all range)
Wavelength repeatability	±0.05 nm
Wavelength scanning speed	Wavelength slew rate about 14000 nm/min Wavelength scan rate: about 4000 to 0.5 nm/min
Wavelength setting	At 1 nm units for scan start and scan wavelength, and 0.1 nm units for other wavelength
Lamp interchange wavelength	Auto switching synchronized with wavelength; switching range selectable between 290 and 370 nm (0.1 nm units)
Spectral bandwidth	0.1/0.2/0.5/2/5 nm, L2/L5 (low stray-light mode)
Resolution	0.1 nm
Stray light	Max. 0.005% (220 nm, Na) Max. 0.005% (340, 370 nm, NaNO ₂) Max. 1% (198 nm, KCl)

Description and Specification:

Photometric system	Double-beam optics
Photometric range	Absorbance: -5 to 5 Abs Transmittance, reference: 0 to 100000%
Photometric accuracy	± 0.002 Abs (0.5 Abs) ± 0.003 Abs (1 Abs) ± 0.006 Abs (2 Abs) $\pm 0.3\%$ T Measured using NIST9300NIST1930 or equivalent filter
Photometric repeatability	± 0.001 Abs (0.5 Abs) ± 0.001 Abs (1 Abs) ± 0.003 Abs (2 Abs) $\pm 0.1\%$ T
Noise level	0.00003 Abs RMS (500 nm)
Baseline filters	± 0.00003 Abs (200-860 nm), 1 hour after light source is turned ON
Baseline stability	Within 0.0002 Abs/h (700 nm), 1 hour after light source is turned ON
Sample compartment	Internal dimensions: W150xD260xH140 (mm) Distance between light beams: 100 mm Maximum optical path length of cell: 100 mm
Dimensions	W450xD600xH250 (mm)
Weight	23 Kg

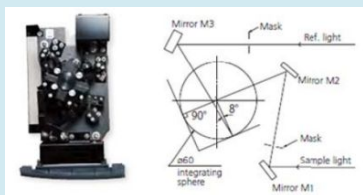
Application:

Sample Type	Solution Powder Film, Filter
Mode	Spectrum Quantitation Photometric Time Course (Kinetic measurement)

Accessories:

Sample Holder

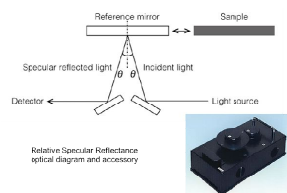
ISR-2600Plus Integrating Sphere Attachment (P/N 206-28410-41)



Inner diameter of integrating sphere: 60 mm
 Maximum size of reflectance sample:
 W95 × H135 × T20 mm (0'' incidence side)
 W70 × H70 × T12 mm (8'' incidence side)
 Measurement wavelength range:
 220 to 850 nm
 Noise level: 0.1 %T RMS 500 nm,
 100% flatness: ±0.5 %T

By combining the 0°/8° incidence angle integrating sphere with the S/R exchange function of the spectrophotometer, diffuse and specular reflectance measurement are possible without using any special attachments. The size of the light beam for reflectance measurements can be changed, which enables reflectance measurement of micro sample (minimum light beam dimensions about 2 × 3 mm) Light beams for transmittance measurements can be concentrated to dimensions of 3 × 3 mm. The ISR-2600Plus is an integrating sphere equipped with detectors: a photomultiplier tube and InGaAs detector.

Specular Reflectance Measurement Attachment (5° Incident Angle) (P/N 206-14046)



Sample as large as W100 × D120 × T15.
 The minimum size 7 mm in diameter.
 Sample placement is easy set it on a holder
 with the measuring surface down.

Applied to the valuation of semiconductor, optical material, multiple layers to reference surface
 The 5 incident angle minimize the influence of polarized light. Thus, no polarizer is required for measurement, making the operation quite simple.

Powdered Holder (P/N 206-89065-41)



Capacity of 0.16 mL, 3 included

This powdered sample holder is for attachment to an integrating sphere.
 It can be attached to all integrating spheres.

Film Holder (P/N 204-58909)



Sample size
 Minimum: W16×H32 mm
 Maximum: W80×H40×120 mm

This holds films, filters, and other thin samples firmly for measurement.

TCC-100 Thermoelectrically Temperature Controlled Cell Holder (P/N 206-29510-41)



Number of cells: One each on the sample and reference sides (temperature-controlled)
 Temperature control range: 7-60 °C
 Temperature display accuracy
 (difference from the true value): ±0.5 °C
 Temperature control precision
 (variation of temperature): ±0.1 °C
Note: Standard cells (P/N 200-34442) is not included,
 please purchase separately

Use the Peltier effect for controlling the sample and reference that meets the following specifications:
 no thermostated bath or cooling water is required.

Analysis Correspondence Chart

UV-2600		UV-2600	
Electricity, Electronics, and Optics		Environment	
High-level absorbance measurements for polarization films	✓	Hexavalent chromium quantitation	✓
Absolute reflectance measurements for anti-reflective films	✓✓✓	Quantitation of total phosphorus and total nitrogen in river water, lakes, and marshes	✓
Transmittance measurements for functional films	✓✓✓	Turbidity measurements	✓✓✓
Transmittance measurements for solar cell cover glass	✓✓✓	Quantitation of iron, copper, arsenic, ammonia, and other substances in water	✓
Band gap measurements and diffuse reflectance measurements for semiconductor materials	✓✓✓	Construction	
Absolute reflectance measurements for highly reflective mirrors	✓✓✓	Transmittance measurements for window glass and window glass films	✓✓✓
Chemicals		Reflectance measurements for paints and building materials	✓✓✓
Transmittance and reflectance measurements for various types of films	✓✓✓	Textiles	
Thin film thickness measurements	✓✓✓	Textile transmittance and reflectance measurements, and ultraviolet screening measurements	✓✓✓
Plastic transmittance measurements, reflectance measurements, and color measurements	✓✓✓	Textile color measurements	✓✓✓
Medicines, Cosmetics, and the Life Sciences		Foods	
Raw material confirmation tests	✓✓✓	Quantitation of vitamins, food additives, and minerals	✓
Enzyme reaction measurements	✓✓✓	Quantitation of phenols leached from containers and packing agents	✓
Protein and nucleic acid quantitation	✓		
Cosmetic color measurements and ultraviolet screening measurements	✓✓✓		