SHIMADZU
Excellence in Science

UV-2600/2700
UV-VIS Spectrophotometers

Experience the Precision Desired,
in Any Situation

Hardware

Item	UV-2600	UV-2700
Photometric system	Double-beam optics	
Photometric system	Czerny–Turner mounting Single monochromator Lo-Ray-Ligh grade blazed holographic grating	Czerny–Turner mounting Double monochromator Lo-Ray-Ligh grade blazed holographic grating
Detector	R-928 Photomultiplier	
Light source	50 W halogen lamp, deuterium lamp, light source 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.	The ISR-2600Plus Integrating Sphere Attachment cannot be used.
Wavelength accuracy	± 0.1 nm (656.1 nm D_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 end wavelengths, and 0.1 nm units for other wavelengths	
Lamp interchange wavelength	Auto switching synchronized with wavelength; switching range selectable between 290 and 370 nm (0.1 nm units)	
Spectral bandwidth	0.1/0.2/0.5/1/2/5 nm L2/L5 (low stray-light mode)	
Resolution	0.1 nm	
Stray light	Max. 0.005 % (220 nm, NaI) Max. 0.005 % (340, 370 nm, $NaNO_2$) Max. 1 % (198 nm, KCl)	Max. 0.00005 % (220 nm, NaI) Max. 0.00002 % (340, 370 nm, $NaNO_2$) Max. 1 % (198 nm, KCl)
Photometric modes	Absorbance (Abs.), transmittance (%), reflectance (%), energy (E)	
Photometric range	Absorbance: –5 to 5 Abs Transmittance, reflectance: 0 to 100000 %	Absorbance: –8.5 to 8.5 Abs Transmittance, reflectance: 0 to 100000 %
Photometric accuracy	± 0.002 Abs (0.5 Abs) ± 0.003 Abs (1 Abs) ± 0.006 Abs (2 Abs) ± 0.3 %T Measured using NIST930D/NIST1930 or equivalent filter	
Photometric repeatability	± 0.001 Abs (0.5 Abs) ± 0.001 Abs (1 Abs) ± 0.003 Abs (2 Abs) ± 0.1 %T	
Noise level	0.00003 Abs RMS (500 nm)	0.00005 Abs RMS (500 nm)
Baseline flatness	± 0.0003 Abs (200–860 nm), 1 hour after light source is turned ON	± 0.0004 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	Within 0.0003 Abs/h (700 nm), 1 hour after light source is turned ON
Sample compartment	Internal dimensions: W150 × D260 × H140 (mm) Distance between light beams: 100 mm Maximum optical path length of cell: 100 mm	
Dimensions	W450 × D600 × H250 (mm)	
Weight	23 kg	
Operating temperature	15°C to 35°C	
Operating humidity	30 % to 80 % (no condensation, less than 70 % above 30°C)	
Power requirements	100 to 240 V AC, 50/60 Hz	
Power consumption	170 VA	

(PC and printer not included.)

Software

UVProbe Software

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Operating System	Windows 7 Professional (64/32 bits)
Data Acquisition Modes	Spectrum, Photometric (quantitation), and Kinetics (time course)
General	• Multitasking (possible to execute data processing while measurement is being performed) • Customizable measurement screen layout (wavelengths, data display font and font size, colors, displayed number of digits) • GLP/GMP compliant (security, history) • Real-time concentration display
Spectrum Mode	• Comparison/interactive processing of multiple spectra (Note 1) • Storage of all processed data with original data set including a history of all manipulations • Spectrum enlargement/shrinking and auto scale • Automatic interlink with spectral data processing • Annotation on spectrum screen
Data Processing in Spectrum Mode	• Normalization, Point Pick, peak/valley detection, area calculation • 1st – 4th derivatives, smoothing, reciprocal, square root, natural log, Abs, %T conversion, exponential conversion, and Kubelka–Munk conversion • Ensemble averaging, interpolation, four arithmetic operations (between spectra, between spectra and factors)
Photometric (Quantitation) Mode	• Single wavelength, multi-wavelength (includes 1, 2, or 3 wavelengths), spectrum quantitation (peak, maximum, minimum, area, etc. for specified wavelength ranges) • K-factor, single-point, multi-point calibration curves (1st, 2nd, 3rd order function fitting, pass-through-zero specification) • Photometric processing with user-defined functions (+, −, ×, ÷, Log, Exp, etc. functions, including factors) • Weight correction, dilution factor correction, and other corrections using factors • Averaging of repeat measurement data • Simultaneous display of standard sample table, unknown sample table, and calibration curves • Display of Pass/Fail indications
Kinetics (Time Course) Mode	• Comparison/interactive processing of multiple time-course data (Note 1) • Single- or double-wavelength measurement (difference or ratio) • Simultaneous display of time-course data, enzyme table, and graphs • Enzyme kinetics calculation (for single- or multi-cell) • Michaelis–Menten calculations and graph creation (Michaelis–Menten, Lineweaver–Burk, Hanes, Woolf, Eadie–Hofstee), Dixon plot, Hill plot • Integrated management of sample information including original data, sample weight, and dilution factors, etc. • Event recording such as addition of reagents during measurement • Time-course spectrum data processing (same as in spectrum data processing)
Report Generator	• Preview and print functions for customized formats • Layout and editing of templates • Quick printing using report templates • Auto-printing (spectrum mode) • Multi-page printout • Insertion of date, time, text, and drawing objects including lines, circles and rectangles • Insertion of spectral/quantitative data, method, and history • Insertion of headers and footers • Specification of graph line thickness (for each module), font style, and size

UV Validation Software

Inspection Items	• Initialization results log • Resolution • Wavelength accuracy • Stray light • Wavelength repeatability • Baseline flatness • Photometric accuracy • Noise level • Photometric repeatability • Drift (baseline stability)
Features	• Select the items to implement during inspection to confirm the approximate time required for full inspection. • The system is capable of both wavelength repeatability checks and wavelength accuracy checks using a wavelength calibration filter. If the optional mercury lamp unit is used, wavelength accuracy can be inspected using the low-pressure mercury lamp's bright line. • The software is capable of resolution inspections using methods defined in the EP (European Pharmacopoeia) and USP (United States Pharmacopoeia) as well as the method for checking the bright line spectral bandwidth.

Dimensions (UV-2600/2700)

(Units: mm)

450 · 600 · 250 · 450

Plan view   Front view
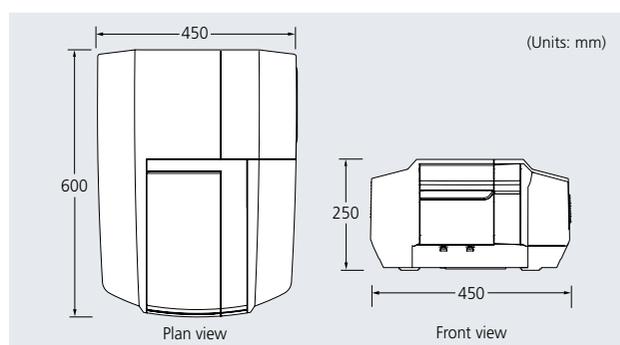
* Additional space is required for the PC and printer.

Standard Contents (Note 2)

Description	Q'ty
Spectrophotometer main unit	1
Standard accessories • Power cable • USB cable	 1 1
Software • UVProbe software • UV Validation software	 1 1
Instruction manual	1
High-Level Absorbance Measurement Kit (UV-2700 only)	1

(Note)   1) Depends on the specifications (including memory capacity) of the PC used. As a guideline, 20 to 30 sets of spectral data can be handled simultaneously.
2) The PC, CRT, and printer are not included as standard.

General requirements for UVProbe to operate are indicated below.

- 1 GB min. of empty hard disk space
- XGA or better video adapter and monitor, with a recommended resolution of at least 1024 × 768 pixels
- USB port
- Graphics printer
- Mouse or similar pointing device
- CD-ROM drive

Even with the above configuration, UVProbe operating performance cannot be guaranteed, depending on Windows settings, hardware state, etc.
Use Shimadzu recommended equipment, if possible.