

Wolf Laboratories

Tel: 01759 301142 Fax: 01759 031143 Email: sales@wolflabs.co.uk Website: www.wolflabs.co.uk

Shimadzu Spectrophotometer UV-1650PC



The UV-1650PC combines optical performance with GLP/GMP compliant UVProbe - the most advanced software available.

The UV-1650PC optical bench is unlike any other system on the market. Its high performance sealed optics are housed in an impact-resistant case. This means extended life for your instrument and high durability for most solvents. The double beam design offers the very best in modern grating technology with the monochromator mounted onto a highly stable optical bench to ensure integrity and trouble-free operation for years to come. Further improvement in long term stability is achieved through automatic monitoring and adjustment for fluctuations in lamp output and system electronics. The blazed holographic grating with self-aligning, energy-optimizing deuterium and tungsten-halogen lamps enhances precision across the UV-VIS spectrum and into the NIR from 190 to 1100nm. Spectral data is obtained at constant bandpass with resolution of less than 2nm. Superb attention to detail in the design of this instrument gives you all these features while maintaining an ultra-narrow beam of only 1 mm, allowing you to examine your smallest samples with confidence. Exclusive design features accommodate any size or type of sample. You can rapidly change from a standard cuvette to a capillary cell or to a powder or film holder. With a comprehensive variety of standard features and a wide choice of options, the UV-1650PC meets the requirements of most industries and applications.

In USA and Europe, UV-1650PC is available as UV1601PC optical bench with UVProbe.

<UV Probe>

Shimadzu has now taken spectroscopy to the next level with the powerful, flexible and easy to use UVProbe software. This package is specifically engineered for Windows NT. Its standard data acquisition modes, vast data processing capabilities, and robust report generator provide the ultimate tool for your UV-Vis solutions.

This 32-bit package, for use with the UV-1600 series, 2400 series, 2500 series, and 3100 series, UV-Vis spectrophotometer, has been designed to accommodate every level of operation, from beginner to advanced users. The software has the ability to show or hide any screen element to fit the users essential operating needs for their specific application. The security feature allows the administrator to determine which operations a particular user groups can perform and logs the users name along with the operation in the history of the data set.

Processing capabilities, and robust report generator provide the ultimate tool for your UV-Vis solutions.

UV-1650PC Hardware Specifications

Wavelength range	190.0 to 1100.0nm
Spectral bandwidth	2nm
Wavelength display	Readable to 0.1nm
Wavelength setting	0.1nm increments (1nm increments for wavelength slewing)
Wavelength accuracy	±0.5nm (Automatic wavelength correction)
Wavelength reproducibility	±0.1nm
Wavelength slew rate	About 6000nm/min.
Wavelength scanning speed	About 3200nm/min. to about 160nm/min.
Data bunching interval	Automatic selection of 2.0, 1.0, 0.5, 0.2, 0.1nm
Lamp interchange wavelength	295.0~364.0nm (340.8nm)
Stray light	Less than 0.05% (at 220.0nm and 340.0nm)
Photometric system	Double-beam optics
Photometric range	Absorbance : -0.5~3.999Abs. Transmittance: 0.0~300%
Photometric accuracy	±0.004Abs. at 1.0Abs. (Tested with NIST 930D filter) ±0.002Abs. at 0.5Abs.
Photometric reproducibility	±0.002Abs. at 1.0Abs. ±0.002Abs. at 0.5Abs.
Baseline stability	Less than ±0.001 Abs./hour
Baseline flatness	±0.002Abs.
Baseline correction	Automatic with computer memory, in two stages of coarse and fine
Light source	50W halogen lamp (2,000 hrs life) and deuterium lamp
Monochromator	Aberration corrected concave blazed holographic grating
Detector	Silicon photodiode
Sample compartment	Inner dimensions: W ^{110.0} X D ^{230.0} X H ^{105.0} mm (partly 105mm deep) Distance between light beams: 100.0mm Installation: Fixed with 2 screws Beam size: 10 X 1mm
Interface ports	RS-232C port f
Power requirements	100, 120, 220, 240VAC, 50/60 Hz, 160VA.
Ambient requirements	Temperature: 15~35°C Humidity: 45~80%
Dimensions and weight	W ⁵⁵⁰ X D ⁴⁷⁰ X H ²⁰⁰ mm, 18kg

UV-1650PC Software Specifications

Photometric mode	Measurement at a user-selected fixed wavelength. The optional CPS-240A Cell Positioner or Multicell Holder permits automatic successive measurement of up to six sample cells. Quantitation using the K-factor method Photometric mode: Choice of %T and Abs.
Spectrum Mode	Photometric mode: Choice of %T, Abs, and E Scanning range: 190.0 to 1100.0nm Scanning speed: Very fast, Fast, Medium, Slow, and Very Slow Ordinate range: Abs: -3.99 ~ +3.99 %T and E: -399 +399 Number of repeated scans: Up to 99 times Spectrum processing Detection of peaks and valleys, up to 20 each Expansion and compression Data readout at cursor-specified point Storage/recall of data (Up to 6 in the main memory, and up to 27 in the data pack) Export of spectral data: Via RS-232C port
Quantitation Mode	Measurement method: Choice of 1 wavelength, 2 wavelength, 3 wavelength, 1st ~ 4th derivative methods. Quantitation method: Automatic concentration calculation by K-factor, single-point calibration curve, or multipoint calibration curve method (1st ~ 3rd order regression curves). Operational parameters. Number of repetitive measurements: 1 ~ 9, to obtain mean value for quantitation Number of order for derivative: 1st ~ 4th Number of standards for multipoint calibration curve: 2 ~ 10 Number of order of calibration curve: 1st ~ 3rd Choice of zero or non-zero intercept Storage/recall of data Automatic data printout
Kinetics Mode	Measurement time: 1~ 6500 sec. or 1 ~ 6500 min. Cell holder: Optional CPS-240A Cell Positioner or Multicell Holder Storage/recall of time-course data Reaction rate calculation and recalculation Export of time-course data via RS-232C port
Multicomponent Quantitation	Up to 8 components can be simultaneously quantitated. A mixture may be used as standard, as well as pure compounds of the components. Data of standards can be stored, as well as the wavelengths. Quantitation on recalled data is possible.
Processing of Spectra and Time-Course Curves	Arithmetic calculation between curves Arithmetic calculation between a curve and a constant. Derivative (1st, 2nd, 3rd, 4th, and smoothing). Integration (area calculation). Peak pick. Point pick. Display of data curve. Presentation of values at cursor-specified point.