Cole-Parmer®

SP-800 Series Double-Beam Spectrophotometers

- Integrated user interface for local control
- Highly stable optics
- Variable spectral bandwidth



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SP-800 Series Spectrophotometers

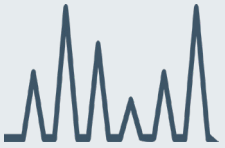
The SP-800-UV is a UV-Visible double-beam spectrophotometer with a variable spectral bandwidth. The spectrophotometer has an integrated user interface for local control and ease of navigation. The highly stable optics and two detectors measure the sample and reference simultaneously, optimizing measurement accuracy.

The SP-800-UV has measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, kinetics, quantitation, DNA, and protein analysis. Up to 10 wavelengths can be measured in the multi-wavelength measurement mode and quantitation curves can be created by measuring up to 10 standards at 3 different wavelengths.

The double-beam spectrophotometer is ideal for quality control, general research, pharmaceutical, biochemical, and clinical laboratory applications.

Key Features

- Double-beam spectrophotometer with highly stable optics
- Integrated user interface for local control
- Variable spectral bandwidth 0.5, 1, 2, 4, and 5 nm
- Prism PC software included as standard
- Extensive range of accessories available
- 1 year warranty



Multiple measurement modes available



Soft key navigation with simple user interface



DNA and protein analysis



Highly stable optics

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SP-800 Series Spectrophotometers

Improved Optics

SP-800-UV covers the UV-Visible wavelength range from 190 to 1100 nm with a variable spectral bandwidth ranging from 5 nm down to 0.5 nm using tungsten halogen and deuterium light sources. The range of bandwidths available allows a balance between resolution, accuracy and data precision to be maximized depending on the application, therefore providing a flexible platform to conform to multiple regulatory agencies for a variety of applications, all with one spectrophotometer.

Three scan speeds are available enabling scan speeds of 100 to 2000 nm/min to be achieved. With wavelength scan intervals of 0.1, 0.2, 0.5, 1, 2, or 5 nm, the unit can be configured to meet your exact requirements.

Instrument Design

SP-800-UV has an integrated user interface providing local control of the spectrophotometer. With no PC required, this saves money and valuable bench space. The large graphical display is easy to read and enables more information to be displayed, including spectrum and kinetics curves. The user interface can be navigated using soft key navigation, arrow keys or shortcut keys.

The spectrophotometer utilizes a research grade monochromator for excellent energy throughput and a silicone photodiode detector. All of this comes packaged in a small footprint double-beam spectrophotometer while still offering a large sample chamber that enables an 8-position cuvette changer to be fitted.

Prism PC Software

- All spectrophotometer functions can be controlled by PC
- Additional functionality
- Increased results storage
- Extensive post-measurement tools
- Easy to export data
- Windows® compatible

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Prism PC Software (continued)

Prism PC software is supplied as standard and offers additional functionality, extensive post-measurement tools, unlimited results saving, and easy export of data.

The Prism PC software can be used to fully control the functionality of the spectrophotometer. The measurement modes available in Prism mirror those of the instrument with measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, kinetics, quantitation, DNA, and protein analysis.

Prism has pre-loaded methods for DNA analysis including 260/280 and 260/230 ratios with 320 nm correction. Up to 20 wavelengths can be measured simultaneously in the multi-wavelength measurement mode, and quantitation curves can be created by measuring up to 200 standards.

Accessories

To further complement the SP-800, we offer an extensive range of easy-to-fit accessories. To enhance productivity and increase throughput rates, there is an automatic 8-cell changer. For medical and biochemical applications where sample volumes are strictly limited, a micro-cuvette holder is available.

For applications where sample temperature is critical, a water heated cuvette holder is available for 10 x 10 mm cuvettes. Please note that a water bath and circulator are also required but not supplied.

For applications requiring additional sensitivity where longer path cuvettes may be required, we offer an adjustable pathlength cuvette holder which can accept cuvettes with 10, 20, 30, 40, 50, and 100 mm pathlengths. Please note that the SP-800-UV has a single 10 x 10 mm cuvette holder fitted in the reference position, therefore it may be necessary to purchase two adjustable pathlength cuvette holders, one for the sample position and one for the reference position.

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SP-800 Series Spectrophotometers

Technical Specifications

Model	SP-800-UV
Wavelength range	190 to 1100 nm
Wavelength resolution	0.1 nm
Wavelength accuracy	±0.3 nm (at 0.5 and 1 nm bandwidth), ± 0.5 nm (at 2, 4 and 5 nm bandwidth)
Wavelength reproducibility	±0.2 nm
Spectral bandwidth	Variable: 0.5, 1, 2, 4, 5 nm
Photometric range	–0.3 to 3 A, 0 to 200% T
Photometric accuracy	±0.002 A (0 to 0.5 A) ±0.3% T (0 to 100% T)
Photometric reproducibility	±0.001 Abs (0 to 0.5 Abs), ±0.002 Abs (0.5 to 1 Abs), 0.15% T (0 to 100% T)
Resolution	0.1% T, 0.001 A
Stray light	< 0.05% T at 220 and 360 nm
Stability	±0.001 A/h at 500 nm after 15 minute warm-up
Noise	0.0005 A
Multi-wavelength	Up to 10 wavelengths, up to 20 wavelengths with PC software
Calculations	Ratio, difference, formulae with factors
Spectrum range	Any range between 190 and 1100 nm
Scan speed	100 to 2000 nm/min
Scan interval	0.1, 0.2, 0.5, 1, 2, or 5 nm
Analysis	Auto peaks and valleys, zoom, addition, subtraction, peak ratios, smoothing, area under curve, wavelength table, derivatives, overlay with PC software
Kinetics	Up to 12 hours with time intervals of 0.1, 0.2, 0.5, 1, 2, 5, 10, or 30 seconds
Analysis	Slope and formula of line of best fit between any two points
Quantitation points	Up to 3 wavelengths
Quantitation calibration	Blank with up to 10 standards or factor
Concentration range	0 to 99999
Calibration	Blank with standards or factor

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Technical Specifications (continued)

Model	SP-800-UV
DNA	DNA ratio, concentration, A320 correction
Light source	Tungsten halogen and deuterium lamps
Lamp changeover	325 to 370 nm selectable
Outputs	USB and parallel
Operating system	Windows 2000, XP, Vista, Windows 7
Electrical supply	115 VAC, 60 Hz or 230 VAC, 50 Hz
Size (W x H x D)	60.0 x 45.0 x 20.0 cm (23.5 x 7.9 x 17.7")
Weight	22 kg (48.5 lb)

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacy SKU	Item number
SP-800-UV-115	6850 Double-Beam Spectrophotometer, 115 VAC, 50/60 Hz	6850/115VAC	**83070-04**
SP-800-UV	6850 Double-Beam Spectrophotometer, 230 VAC, 50/60 Hz	6850/230VAC	**83070-06**

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