Спектрофотометры SP-300, SP-400, SP-500, SP-400-BIO, SP-600, SP-200, SP-600-UV, SP-800, комплекты для калибровки, наборы стандартов, держатели кювет, принтеры, галогеновые лампы

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Cole-Parmer®

SP-800 Series Double-Beam Spectrophotometers

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

SP-800 Series Spectrophotometers

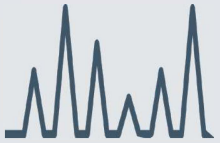
The SP-800-UV is a UV-Visible double-beam spectrophotometer with a variable spectral bandwidth. The spectrophotometer has an integrated user interface for local control and ease of navigation. The highly stable optics and two detectors measure the sample and reference simultaneously, optimizing measurement 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
- 1year warranty



Multiple measurement modes available

Soft key navigation with simple user interface

DNA and protein analysis

Highly stable optics

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

SP-800 Series Spectrophotometers

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.

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 1Abs), 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	0.0005A
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

SP-800 Series Spectrophotometers

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**

Cole-Parmer®

SP-300 Series Life Science Spectrophotometers

- Preprogrammed methods for DNA, RNA and protein analysis
- USB for saving results and method
- Icon-driven software and easy-to-use navigation system provide intuitive usability

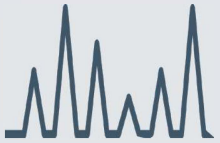
SP-300 Series Life Science Spectrophotometers

SP-300 Series Life Science Spectrophotometers have all the features of a standard spectrophotometer plus features dedicated to life science analysis. Preprogrammed methods measure ssDNA, dsDNA, RNA, and oligonucleotide concentrations using wavelengths recorded at 260, 280 and 230 nm with an optional correction at 320 nm. For measuring protein concentrations, SP-350-BIO and SP-350-NANO models are preprogrammed with methods for Bradford, Lowry, Biuret, Bicinchoninic Acid (BCA), and Direct UV assays.

The lid of the instrument includes a large graphical display with the option of an integrated printer (SP-300-BIO only) to minimize the overall footprint of the spectrophotometer in the lab. Icon-driven software and soft key navigation ensures easy and intuitive use and setup.

Key Features

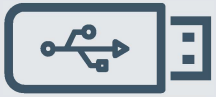
- Life science spectrophotometer
- Preprogrammed for DNA, RNA and protein analysis
- Compatible with ultra-micro, semi-micro, micro, and macro cuvettes (SP-350-BIO only)
- Only a few µL of sample needed for measurement (SP-350-NANO only)
- Small footprint and lightweight
- 3 year warranty



Multiple measurement modes available

Graphical display with icon-driven software

DNA, RNA and protein analysis



Method and result saving to USB

SP-300 Series Life Science Spectrophotometers

Measurement Modes

Cell density measurement mode - bacterial cell cultures are routinely grown until the optical density at 600 nm reaches approximately 0.4, which indicates the optimum cell number for harvesting. This measurement mode enables cell growth to be monitored by measuring absorbance. Measurements can be performed at 600 nm, 595 nm or any other user selected wavelength.

Purity scan measurement mode - this measurement mode is used to check the purity of nucleic acids. This is especially useful for RNA samples where impurities may be present at 230 nm but cannot be detected using the 260/280 ratio measurement. The SP-300 series life science spectrophotometers enable scanning across the full wavelength range from 198 to 1000 nm to identify any distorted peaks.

Multi-wavelength measurement mode - This measurement mode allows the sample to be measured at 4 different wavelengths, with ratio calculations and formulae with various factors to calculate concentration.

Concentration measurement mode - This mode allows simple absorbance, %transmittance and concentration calculations to be performed. There are 27 units of concentration to select from.

Improved Optics

This instrument has a 'press to read' xenon lamp to give more accurate readings and extend lamp life. Instruments also include an easy access USB port on the front of the instrument which enables results and methods to be stored directly to a USB memory stick, for easy transfer of data or setup of multiple instruments in a laboratory.

SP-300 Series Life Science Spectrophotometers

Technical Specifications

Model	SP-350-BIO	SP-350-NANO
Wavelength range	198 to 1000 nm	198 to 1000 nm
Wavelength accuracy	±2 nm	±2 nm
Spectral bandwidth	5nm	5nm
Photometric transmittance	0 to 199.9% T	0 to 199.9% T
Photometric absorbance	-0.3to 2.5 A	-15 to 125 A
Photometric accuracy	±0.01 A at 1A; ±1%T (0 to 100%T)	±0.01 A at 1A; ±1%T (0 to 100%T)
Concentration	0 to 9999 ng/µL (dsDNA) at 0.2 mm	0 to 6000 ng/µL (dsDNA) at 0.2 mm
Output	USB, RS-232 and analog	USB, RS-232 and analog
Display type	LCD	LCD
Size (W x H x D)	27.5 x 22 x 40 cm (10.8 x 8.7 x 15.7 in)	27.5 x 22 x 40 cm (10.8 x 8.7 x 15.7 in)

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacySKU	Item number
SP-350-8IO	Genova Plus Life Science Spectrophotometer, 100-240 VAC, 50/60 Hz	736501	**83070-00**
SP-350-NANO	Genova Nano Micro-Volume Life Science Spectrophotometer, 100-240 VAC, 50/60 Hz	737501	**83070-02**

SP-300 Series Life Science Spectrophotometers

Accessories (SP-300-BIO only)

Description	Jenway legacy SKU	Item number
Automatic Turet, 8-Cell	735401	**83070-31**
Sipper Pump	735201	**83070-33**
Electronic Peltier Cuvette Holder	735301	**83070-35**
Combination Sipper-Peltier Pump	735701	**83070-37**
Cuvette Holder, Water Heated, 10 mm Square	736201	**83070-51**
Boiling Tube Holder	735601	**83058-95**
Internal Printer	660101	**83070-39**
Dust Cover	735001	**83058-94**

Cole-Parmer®

SP-300 Series Spectrophotometers

- UV and UVNIS Spectrophotometers
- Easy to use
- Compact and lightweight with a small footprint
- Multiple mode choices and customizable features

SP-300 Series Spectrophotometers

The four spectrophotometers in the SP-300 series range are models SP-300-VIS and SP-350-VIS which cover the visible region of the spectrum, and models SP-300-UV and SP-350UV which use a flash xenon lamp to extend the wavelength range into the UV region of the spectrum.

Basic models, SP-300-VIS and SP-300-UV, feature measurement modes, percent transmittance, absorbance and concentration. Advanced models, SP-350-VIS and SP-350-UV, include the basic features plus scanning, kinetics and quantitation.

Improved Optics

The SP-300 series models have improved optics resulting in a narrow spectral bandwidth of 5 nm and an absorbance range of -0.3 to 2.5 Abs.

- The SP-300-UV and SP-350-UV models use a 'press to read' xenon lamp to give more accurate readings and extend lamp life.
- The equipment and xenon lamp is covered by a 3 year warranty.
- The SP-300-VIS and SP-350-VIS models have a tungsten halogen lamp with a lamp save feature which enables the lamp to be turned off automatically after periods of inactivity.

Improved optics

Extended lamp life with PTR
(press to read)

Autologging capable

Easy USB data transfer
(SP-350-VIS & SP-350-UV models)

SP-300 Series Spectrophotometers

SPECIFICATIONS				
	SP-300-VIS	SP-300-UV	SP-350-VIS	SP-350-UV
Outputs	Analog, RS-232, Integral printer*		USB, Analog, RS-232, Integral printer*	
Size (Wx H x D)	27.5 x 22.0 x 40.0 cm (11.0 x 9.0 x 16.0")			
Weight	6 kg (13 lb)			
	Wavelength			
Range	320 to 1,000 nm	198 to 1,000 nm	320 to 1,000 nm	198 to 1,000 nm
Light source	Tungsten halogen lamp	Xenon lamp	Tungsten halogen lamp	Xenon lamp
Resolution	1 nm			
Accuracy	±2 nm			
Repeatibility	±0.5 nm			
Spectral bandwidth	5nm			
	Photometrics			
Transmittance	0 to 199.9%			
Absorbance	-0.300 to 2.500 A			
Accuracy	±1%T, ±0.01 Abs at 1.000 Absorbance			
Resolution	0.1% T, 0.001 A			
	Concentration			
Range	-300 to 9,999			
Resolution	Selectable 1, 0.1, 0.01, 0.001			
Calibration	Blank with a single standard or factor			
Factor	0.001 to 10,000			
Standard	0.001 to 1,000			
Units	no units,%, ppm, EBC, SRM, mEq/L, mEq, M, mM, µM, nM, U, U/L, U/ml, g/L, mg/L, µg/L, ng/L, g/dl, mg/dl, µg/dl, mg/ml, µg/ml, ng/ml, µg/µL, ng/µL, mol/L, mmol/L			

*Printer is optional on all models

SP-300 Series Spectrophotometers

EXCLUSIVE SPECIFICATIONS FOR SP-350-VIS AND SP-350-UV ADVANCED MODELS	
	Quantitation
Range	-300 to 9,999
Resolution	Selectable 1, 0.1, 0.01, 0.001
Calibration	Blank with up to 6 standards
Curve fit statistics	Quadratic, quadratic through zero, linear, linear through zero, interpolate
	Kinetics
Measurement time	2 to 9,999 seconds
Calibration	Blank with a single standard or factor
Resolution	Selectable 1, 0.1, 0.01, 0.001
Display	Graphical and concentration
Analysis	Concentration, rate of change, initial and final absorbance or% transmittance
	Spectrum
Scan interval	Selectable 1, 2 or 5 nm
Analysis	Absorbance or% transmittance and peak and valleys
	Other
GLP	Current time and date, user ID, instrument lock, and method lock
Method storage	240
Results storage	Limited by attached USB
Removable media	USB (supplied)

SP-300 Series Spectrophotometers

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacy SKU	Item number
SP-300-VIS	7300 Visible Spectrophotometer; 90 to 264 V	730001	**83058-15**
SP-300-UV	7305 UV/Visible Spectrophotometer; 90 to 264 V	730501	**83058-16**
SP-350-VIS	7310 Advanced Visible Spectrophotometer; 90 to 264 V	731001	**83058-17**
SP-350-UV	7315 Advanced UV/Visible Spectrophotometer; 90 to 264 V	731501	**83058-18**

Accessories

Description	Jenway legacy SKU	Item number
Automatic Turet, 8-Cell	735401	**83070-31**
Sipper Pump	735201	**83070-33**
Electronic Peltier Cuvette Holder	735301	**83070-35**
Combination Sipper-Peltier Pump	735701	**83070-37**
Cuvette Holder, Water Heated, 10 mm Square	736201	**83070-51**
Boiling Tube Holder	735601	**83058-95**
Internal Printer	660101	**83070-39**
Dust Cover	735001	**83058-94**

Cole-Parmer®

SP-500 and SP-600 Series Spectrophotometers

- Color touchscreen with intuitive user interface
- Internal memory for methods and results
- Ideal for applications in education and routine quality control

SP-500 and SP-600 Series Spectrophotometers

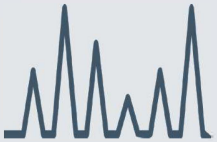
The SP-500 and SP-600 series spectrophotometers provide accurate and reliable results in various applications from teaching, to industrial applications, to routine sample analysis in quality control environments. These spectrophotometers are designed for ease of use with enhanced connectivity for simple and quick data transfer.

The range includes multiple models. Model SP-500-VIS uses a tungsten halogen lamp for measurements in the visible spectrum from 320 to 1000 nm. Models SP-500-UV, SP-500-NANO and SP-600-UV use a xenon lamp to extend measurements into the UV spectrum, down to 198 nm.

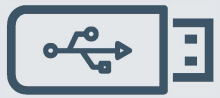
SP-600 series spectrophotometers feature split beam optics, also known as ratio or dual beam, that provides better accuracy and reproducibility. The split beam compensates for fluctuation and stabilizes the reliability of the measurement with prolonged time, making these ideal in time course and kinetic measurements

Key Features

- 7-inch high-definition color touchscreen display
- Multiple USB ports for data storage and printer connectivity
- Android operating system
- Internal memory for methods and results (10 GB on-board storage)
- Multiple language options including English, French, German, Spanish, and Italian
- Extensive range of accessories available
- 3 year warranty (including xenon lamp)
- Preprogrammed for DNA, RNA and protein analysis (SP-500-NANO only)
- Only a few µL of sample needed for measurement (SP-500-NANO only)



Multiple measurement modes available



USB ports for data storage and printer connectivity

Powerful optics for accurate and reliable results

Color touchscreen user interface

SP-500 and SP-600 Series Spectrophotometers

Display

The SP-500 and SP-600 series spectrophotometers have a large, 7-inch high definition color touchscreen display that makes navigation fast and intuitive. The display allows full spectrum scans, quantitation curves and kinetics runs to be viewed effortlessly.

The touchscreen capability enables users to zoom in and out and select points all by simply touching the screen. The touchscreen display is fast and responsive even when wearing gloves.

Interface Design

Our spectrophotometers have a custom designed user interface which is based on an Android platform, making it easy to navigate and control the instrument. The home screen gives quick access to the different measurement modes as well as shortcuts to previously saved methods and results.

Instrument Design

The ergonomic design of the SP-500 and SP-600 series focuses on ease of accessibility while keeping the overall footprint as small as possible. The power switch and USB ports are located at the front of the instrument for easy access. The large color touchscreen is situated in front of the large sample chamber to ensure unhindered access to both.

Inside the SP-500 and SP-600 series spectrophotometers are powerful optics coupled with a traditional grating and monochromator design to produce accurate and reliable results.

Enhanced Connectivity

The SP-500 and SP-600 series spectrophotometers have been designed with excellent connectivity in mind. The easy access USB ports on the front of the instrument can be used for software updates, data storage and printer connectivity. Results and methods can be stored as CSV files for easy transfer to Microsoft® Excel®.

SP-500 and SP-600 Series Spectrophotometers

Sample Chamber - SP-500-VIS, SP-500-UV, SP-600-UV

The large sample chamber accommodates all available accessories, saving valuable laboratory bench space. The large sample chamber lid allows easy access for loading and unloading samples and for changing accessories. The domed lid has been designed to allow tall multi-cell changers or test tubes to be used while still keeping a tight sample chamber.

Internal Memory

Spectrophotometers have a generous 10 GB on-board storage which allows methods and results to be stored on the instrument.

Accessories

Models SP-500-VIS, SP-500-UV and SP-600-UV are versatile and flexible instruments with an extensive range of accessories available that have been specifically designed to be easily interchangeable. The powered accessories include the automatic 8-cell changer.

Models SP-500-VIS, SP-500-UV and SP-600-UV offer non-powered accessories including a 10 x 10 mm cuvette holder (fitted as standard), test tube holder, adjustable path length cuvette holder (10 to 100 mm), and a micro-cuvette holder. All accessories are easy to interchange using the ergonomic thumbscrew.

For instant results, there is also a printer available which connects to the spectrophotometer via the USB port at the front of the instrument. Spectrum scans and kinetics runs are printed in a vertical orientation to maximize the amount of information displayed.

SP-400-NANO, Life Science Spectrophotometer

SP-400-NANO is dedicated to life science analysis and requires only a few µL of sample for analysis. Preprogrammed methods measure ssDNA, dsDNA, RNA, and oligonucleotide concentrations using wavelengths recorded at 260, 280 and 230 nm with an optional correction at 320 nm. For measuring protein concentrations, model SP-400-NANO is preprogrammed with methods for Bradford, Lowry, Biuret, Bicinchoninic Acid (BCA), and Direct UV assays.

SP-500 and SP-600 Series Spectrophotometers

Technical Specifications

Model	SP-500-VIS	SP-500-UV & SP-500-NANO	SP-600-UV
Wavelength range	320 to 1000 nm	198 to 1000 nm	198 to 1000 nm
Wavelength accuracy	±2nm	±2nm	±2nm
Wavelength repeatability	±1nm	±1nm	± 0.5 nm
Spectral bandwidth	5nm	5nm	1.5 nm
Absorbance range	-0.3 to 2.5 A	-0.3 to 2.5 A	-0.3 to 2.5 A
Absorbance accuracy	± 1%T, ±0.010 Abs at 1.000 Abs	± 1%T, ±0.010 Abs at 1.000 Abs	± 1%T, ±0.010 Abs at 1.000 Abs
Transmittance range	Oto 199.9%	0 to 199.9%	0 to 199.9%
Quantitation calibration range	Blank with a single standard or factor	Blank with a single standard or factor	Blank with a single standard or factor
Internal memory	10 GB	10 GB	10 GB
External memory	Limited by attached storage device	Limited by attached storage device	Limited by attached storage device
Optics	Single beam with tungsten lamp	Single beam with xenon lamp	Split beam with xenon lamp
Detector	Silicon photodiode	Silicon photodiode	Silicon photodiode
Spectral analysis	Absorbance or% transmittance and peaks and valleys and area under curve	Absorbance or% transmittance and peaks and valleys and area under curve	Absorbance or% transmittance and peaks and valleys and area under curve
Light source	Tungsten halogen lamp	Xenon lamp	Xenon lamp
Lamp save	Yes	Not applicable	Not applicable
Dimensions (W x H x D)	28.0 x 15.6 x 50.0 cm (11.0 x 6.1 x 19.7")	28.0 x 15.6 x 50.0 cm (11.0 x 6.1 x 19.7")	28.0 x 15.6 x 50.0 cm (11.0 x 6.1 x 19.7")
Weight	9 kg (19.8 lb)	9 kg (19.8 lb)	9 kg (19.8 lb)

SP-500 and SP-600 Series Spectrophotometers

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacy SKU	Item number
SP-500-VIS	7410 Scanning Visible Spectrophotometer, 100–240 VAC, 50/60 Hz	741001	**83056-21**
SP-500-UV	7415 Scanning UV/Visible Spectrophotometer, 100–240 VAC, 50/60 Hz	741501	**83056-22**
SP-500-NANO	7415 Nano Scanning Micro-Volume UV-Visible Spectrophotometer, 100–240 VAC, 50/60 Hz	747501	**83056-23**
SP-600-UV	7615 Scanning UV/Visible Spectrophotometer, 100–240 VAC, 50/60 Hz	761501	**83056-26**

Accessories

Description	Jenway legacy SKU	Part number
Cuvette Holder, 16 or 24 mm Diameter or 10 mm Square	637071	**83070-43**
Cuvette Holder, 10 x 10 mm Square	630204	**83070-41**
Rectangular Long-Path Cell Holder, 10 to 100 mm	630005	**83056-80**
Micro-Cuvette Holder	630304	**83056-82**
Automatic 8-cell Changer	740401	**83056-29**
External Printer fitted with a battery and supplied with UK, EU and US power lead	SMP50/PRINTER	**83056-79**

Cole-Parmer®

SP-400-BIO Life Science Spectrophotometer

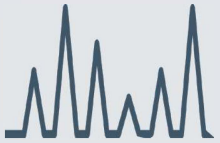
- Preprogrammed for DNA, RNA and protein analysis
- Scanning diode array technology
- Multiple USB ports for data storage and printer compatibility

SP-400-81O Spectrophotometer

The SP-400-8IO is a simple, low-cost, easy-to-use UVNisible spectrophotometer dedicated for life science applications. It is compatible with a wide range of small volume cuvettes, making it ideal for measuring DNA and RNA samples. To make measurements quicker and easier, the SP-400-8IO has preprogrammed methods for the measurement of nucleic acid concentration and purity, protein assays and cell density. This spectrophotometer measures across a UVNisible wavelength range of 198 to 800 nm with a narrow spectral bandwidth of 3 mm. The SP-400-8IO is covered by a 2 year warranty which includes the xenon lamp.

Key Features

- Life science spectrophotometer
- Preprogrammed for DNA, RNA and protein analysis
- Compatible with ultra-micro, semi-micro, micro, and macro cuvettes
- Scanning diode array technology
- Color touchscreen navigation
- Small footprint and lightweight(< 3 kg)
- Fast scan speed
- English, French, German, Italian, and Spanish language options
- Multiple USB ports for data storage and printer connectivity
- 2 year warranty including xenon lamp



Multiple measurement modes available

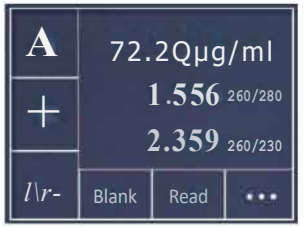
Color touchscreen navigation

DNA, RNA and protein analysis

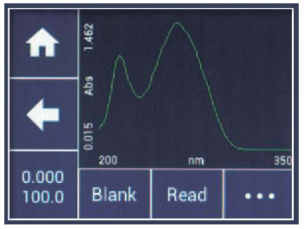
Scanning diode array technology

SP-400-81O Spectrophotometer

Measurement Modes



The nucleic acid measurement mode can be used to quantify the concentration and purity of dsDNA, ssDNA, RNA, and oligonucleotides using wavelengths recorded at 260, 280 and 230 nm, with an optional correction at 320 nm. The concentration is calculated along with the corresponding purity ratios 260/280 nm and 260/230 nm. At the touch of a button, it is easy to visually check the purity of the nucleic acids. This is done by identifying peak levels in the purity scan between 200 and 350 nm. This is especially useful for RNA samples where impurities may be present at 230 nm, but cannot be detected using the 260/280 nm ratio measurement.



Where nucleic acid concentrations are high, or there are only small sample volumes available for testing, there is a dilution option which can be used to calculate the original concentration of diluted samples.

The protein measurement mode can be used to calculate protein concentration by creating standard curves from protein assay kits. With preprogrammed methods for measuring Bradford, Lowry, Biuret, and Bicinchoninic Acid (BCA) assays, up to 6 standards can be measured with 3 replicates of each standard to minimize any dilution errors. Each method has an optional background correction wavelength, depending on the assay being measured.

The protein measurement mode is also preprogrammed with the direct UV and Warburg-Christian methods to determine purified protein concentrations. The SP-400-8IO has a preprogrammed method for measuring optical density of bacterial cultures such as *E coli* and yeast cells. This is ideal to measure cell growth before cell harvesting.

As well as these preprogrammed life science methods, this versatile spectrophotometer has measurement modes for simple photometrics, concentration, quantitation, spectrum scanning, and kinetics. This enables measurements to be performed at any selected wavelength between 198 and 800 nm.

Instrument Design

The SP-400-8IO utilizes diode array technology to scan the entire wavelength range (198 to 800 nm) in less than 3 seconds. The 1024-element diode array detector coupled with a flash xenon lamp results in a long life, robust spectrophotometer. The large color touchscreen interface is fast and responsive, making this spectrophotometer the ideal addition to any laboratory. This is all conveniently packaged, resulting in a lightweight, small footprint instrument, weighing less than 3 kg.

SP-400-81O Spectrophotometer

USB Connectivity

There are two USB ports for data storage and printer connectivity. The easy access USB port on the front of the instrument can be used to easily store results and transfer data as tab delimited text files to Microsoft® Excel®.

Accessories

The SP-400-BIO is supplied with a micro-cuvette holder as standard, making it ideal for small sample volumes down to 50 µL. For even smaller sample volumes, the SP-400-BIO has been designed to work with the Traycell and DMV-BioCell accessories. This enables ultra-micro samples as low as 0.7 µL to be measured without the need for dilution.

Technical Specifications

Model	SP-400-BIO
Wavelength range	198 to 800 nm
Wavelength accuracy	±2nm
Wavelength repeatability	±2nm
Spectral bandwidth	3nm
Transmittance	0 to 199.9%
Absorbance	-0.3 to 2.5A
Photometric accuracy	±0.01 A at 1A and 546 nm
Stability (A)	±0.005 A/h at 0.04 A and 546 nm after 60 minute warm-up
Noise	±0.002 A at 0.04 A and ±0.02 A at 2 A and 546 nm
Stray light at 340 nm, %T	<1%T according to ANSI/ASTM E387-72
Nucleic acids	Preprogrammed methods: dsDNA, ssDNA, RNA, Oligos Concentration, purity (260/280 nm and 260/230 nm ratios), optional background correction at 320 nm Spectrum scan
Proteins	Purified proteins at 280 nm and Warburg-Christian Protein assays (Bradford, Biuret, Lowry, BCA)

SP-400-BIO Spectrophotometer

Technical Specifications (continued)

Model	SP-400-BIO
Cell density	600 nm optical density reading Conversion factor in cells/mL
Beam height	15 mm
Light source	Xenon lamp
Results memory	Limited by attached mass storage device
Removable media	USB (not supplied)
Outputs	USB x 2
Supply voltage-frequency	100–240 VAC, 50/60 Hz
Power supply	12 V DC, 3.8 A
Size (W x H x D)	21.2 x 12.0 x 42.2 cm (8.3 x 4.7 x 16.6")
Weight	2.8 kg (6.2 lb)
Warranty	2 years on the instrument, including xenon lamp

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacy SKU	Item number
SP-400-BIO	Genova Bio UV-Visible Diode Array Scanning Spectrophotometer, 100-240 VAC, 50/60 Hz	720601	**83056-04**
SP-400-BIO with DMV-Biocell	Jenway model Genova Bio UV/Visible 72 Series Diode Array Scanning Spectrophotometer with DMV-BioCell	83056-76	**83056-76**

Cole-Parmer®

SP-400 Series Spectrophotometers

- Scanning diode array technology
- Compact and lightweight with a small footprint
- USB ports for data storage and printer connectivity
- Ideal for applications in education and routine testing in clinical, veterinary, pharmaceutical, and QC laboratories

SP-400 Series Spectrophotometers

The SP-400 series spectrophotometers are the first scanning spectrophotometers in our range to leverage diode array technology to produce exceptionally fast results. The range includes two models. Model SP-400-VIS covers a wavelength range of 335 to 800 nm with a spectral bandwidth of 7 nm. Model SP-400-UV covers a wavelength range of 198 to 800 nm with a spectral bandwidth of 5 nm.

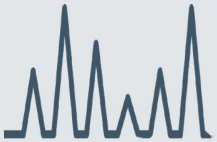
The SP-400 series spectrophotometers are covered by a 2 year warranty.

Key Features

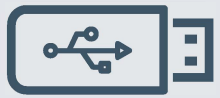
- Scanning diode array technology
- Color touchscreen navigation
- Small footprint and lightweight
- Fast scan speed
- English, French and German language options
- Multiple USB ports for data storage and printer connectivity
- Extensive range of accessories available
- 2 year warranty

Measurement Modes

Both models offer measurement modes for single wavelength with basic absorbance and percent transmittance. Concentration can be calculated using a known factor or by measuring a single standard. Up to six standards can also be measured to create a quantitation curve, with the option to measure each standard up to three times. Optical density can be measured at 600 nm, which is ideal for cell harvesting.



Multiple measurement modes available



USB ports for data storage and printer connectivity

Scanning diode array technology

Color touchscreen user interface

SP-400 Series Spectrophotometers

Measurement Modes (continued)

Both models perform an exceptionally fast spectrum scan across the entire wavelength range in less than 6 seconds; displaying the results at 1 nm resolution across the selected range.

The kinetics measurement mode can be used to measure the change in absorbance over time for up to 3 wavelengths simultaneously. The concentration can also be calculated following completion of the kinetics experiment.

Diode Array Technology

The benefits of diode array technology include very fast scanning with the ability to scan the entire wavelength range of 198 to 800 nm in less than 3 seconds for (model SP-400-UV), which is ideal for fast chemical reactions and denaturing materials. Traditional spectrophotometers use stepper motors to select the required wavelength. With diode array technology, each wavelength is selected by electrical scanning, which results in excellent wavelength reproducibility. Diode array optics are very reliable and require very little maintenance.

Due to the reversed optic structure utilized by the SP-400 series spectrophotometers, they are not affected by ambient stray light so experiments can be performed with the lid open. This is ideal for samples in tall test tubes, or where fast access is required for kinetics experiments where the prompt introduction of the reaction component is required.

With diode array technology, each time a measurement is performed the absorbance is recorded across the entire wavelength range regardless of the wavelength selected. Therefore, if a sample is measured incorrectly at 555 nm instead of 550 nm, there is no need to perform another blank and measure the sample again. Adjusting the wavelength range to the desired wavelength will automatically display the photometric results at that wavelength, saving valuable time.

Display

The color touchscreen user interface provides fast and easy setup and navigation of the instrument. The 4-inch display allows full spectrum scans, quantitation curves and kinetics runs to be viewed easily. The touchscreen capability enables users to zoom in and out and select spectral analysis points, all by simply tapping the screen.

SP-400 Series Spectrophotometers

USB Connectivity

There are two USB ports for data storage and printer connectivity. The easy-access USB port on the front of the instrument can be used to easily store results and transfer data as tab delimited text files to Microsoft® Excel®. As well as results storage, quantitation curves can also be saved to a USB memory stick for easy and quick access, so there is no need to recreate the calibration curve each time you need to perform a measurement. User selected spectral analysis points (up to 50) can also be saved to USB memory stick or printed. The front USB port can also be used for software updates so it is easy to keep up to date with the latest software version.

The USB port on the rear of the instrument can be used for connection to the optional external printer for instant results. The spectrum scans and kinetics runs are printed in a vertical orientation to maximize the amount of information displayed. The spectrophotometers can also be configured to save results automatically to a USB memory stick or to automatically print to the external printer.

Sample Chamber

The instruments have been cleverly designed to incorporate a large sample chamber into a very small footprint, ideal when bench space is at a premium. The large sample chamber allows easy access for loading and unloading samples. It has been designed with a tapered base so that any accidental spillage will drain away, making it easy to clean.

The sample chamber will easily accommodate the optional long pathlength cuvette holder or the heated cuvette holder.

Cuvette Rack

There is a handy built-in cuvette rack for convenient storage of samples and blanks which keeps the bench space tidy and clutter free.

Design

The SP-400 series spectrophotometers use a 1024-element diode array detector with a tungsten halogen lamp or a xenon lamp which gives good intensity over the whole spectrum with low noise and drift. Both lamps are press to read which increases the lamp's lifespan.

SP-400 Series Spectrophotometers

Accessories

The SP-400 series spectrophotometers have been designed to be compatible with an extensive range of accessories. Accessories include a test tube holder, rectangular long-path cell holder (10 to 100 mm), micro-cuvette holder, heated cuvette holder, and a printer. All of the accessories are easy to interchange using the ergonomic thumb screw.

For applications where the temperature of the sample needs to be controlled, there is a heated cuvette accessory. The heated cuvette holder accepts a 10 x 10 mm cuvette and enables 2.5 ml of sample to be heated to 37 °C in 30 minutes. When this accessory is fitted, the instrument automatically detects it upon power up and the software controls become active. The heated cuvette holder has a temperature range of 32 °C to 42 °C in 0.5 °C increments. It can easily be fitted and removed without the need for any tools.

Both models are supplied with a 10 x 10 mm cuvette as standard. The sample chamber lid can also be left open during measurements which is ideal for samples in tall test tubes.

Test Tube Holder

For larger sample volumes we offer a holder that can hold test tubes with diameters of 16 or 24 mm. Also accepts 10 x 10 mm square cuvettes.

Rectangular Long-Path Cell Holder

Where cuvettes greater than 10 mm are required, we offer an adjustable pathlength cuvette holder that can accept cuvettes with a pathlength from 10 to 100 mm.

Micro-Cuvette Holder

For small sample volumes down to 50 µL, we offer a micro-cuvette holder which is ideal for use with micro-cuvettes.

Test Tube Holder

Rectangular Long-Path Cell Holder

Micro-Cuvette Holder

Heated Cuvette Holder

Printer

SP-400 Series Spectrophotometers

Accessories (continued)

Heated Cuvette Holder

For applications where the temperature of the sample needs to be controlled, we offer a heated cuvette accessory. The heated cuvette holder accepts 10 x 10 mm cuvettes and can be easily fitted and removed without the need for any tools. This accessory has a temperature range of 32 °C to 42 °C. The heated cell accessory is supplied with a US, UK and EU power lead which is required to power the spectrophotometer and the heated cuvette holder.

Printer

The printer connects to the spectrophotometer via the USB port on the rear of the instrument and will provide instant results. Spectrum and kinetics graphs are printed in the vertical direction to maximize the amount of information displayed. The spectrophotometer can be set up to automatically send results to the printer. Printer has a rechargeable battery and is supplied with US, UK and EU power leads.

Technical Specifications

Model	SP-400-VIS	SP-400-UV
Wavelength		
Range	335to 800 nm	198 to 800 nm
Accuracy	±2 nm	±2 nm
Repeatability	±2 nm	±2 nm
Spectral bandwidth	7nm	5nm
Photometrics		
Transmittance	Oto 199.9%	Oto 199.9%
Absorbance	-0.3 to 2.5 A	-0.3to 2.5 A
Accuracy	±0.01 A at 1A and 546 nm	±0.01 A at 1A and 546 nm
Stability (A)	±0.005 A/h at 0.04 A and 546 nm after 60 minute warm-up	±0.005 A/h at 0.04 A and 546 nm after 60 minute warm-up

SP-400 Series Spectrophotometers

Technical Specifications (continued)

Model	SP-400-VIS	SP-400-UV
Photometrics (continued)		
Noise	±0.002 A at 0.04 A and ±0.02 A at 2 A and 546 nm	±0.002 A at 0.04 A and ±0.02 A at 2 A and 546 nm
Stray light at 340 nm, %T	< 1% T according to ANSI/ASTM E387-72	< 1% T according to ANSI/ASTM E387-72
Concentration		
Range	±2500	±2500
Calibration	Blank with a single standard or factor	Blank with a single standard or factor
Factor	±1000	±1000
Standard	±1000	±1000
Optical Density		
Factor	±1000	±1000
Quantitation		
Range	±2500	±2500
Calibration	Blank with up to 6 standards	Blank with up to 6 standards
Curve fit algorithms	Linear and linear through zero	Linear and linear through zero
Kinetics		
Measurement time	15 to 9999 seconds	7 to 9999 seconds
Number of wavelengths	3	3
Calibration	Black with a factor	Black with a factor
Display	Graphical and concentration	Graphical and concentration
Analysis	Concentration	Concentration
Spectrum		
Range	335to 800 nm	198 to 800 nm
Analysis	Absorbance or% transmittance and up to 50 spectral analysis points	Absorbance or% transmittance and up to 50 spectral analysis points

SP-400 Series Spectrophotometers

Technical Specifications (continued)

Model	SP-400-VIS	SP-400-UV
Other		
Beam height	15 mm	15 mm
Light source	Tungsten halogen lamp	Xenon lamp
Results memory	Limited by attached mass storage device	Limited by attached mass storage device
Removable media	USB (not supplied)	USB (not supplied)
Supply voltage-frequency	100-240 VAC, 50/60 Hz	100-240 VAC, 50/60 Hz
Power	12 V DC, 3.8A	12 V DC, 3.8A
Size (W x H x D)	21.2 x 12.0 x 42.2 cm (8.7 x 4.7 x 16.6")	21.2 x 12.0 x 42.2 cm (8.7 x 4.7 x 16.6")
Weight	2.8 kg (6.2 lb)	2.8 kg (6.2 lb)
Warranty	2 years on the instrument, 1year on the lamp	2 years on the instrument including the lamp

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacySKU	Item number
SP-400-VIS	7200 Visible Diode Array Scanning Spectrophotometer, 100-240 VAC, 50/60 Hz	720001	**83056-01**
SP-400-UV	7205 UV-Visible Diode Array Scanning Spectrophotometer, 100-240 VAC, 50/60 Hz	720501	**83056-02**

SP-400 Series Spectrophotometers

Accessories

Description	Jenway legacy SKU	Item number
Test Tube Holder, 16 or 24 mm Diameter or 10 mm Square	637071	**83070-43**
Cuvette Holder, 10 x 10 mm Square	630204	**83070-41**
Rectangular Long-Path Cell Holder, 10 to 100 mm	630005	**83056-80**
Micro-Cuvette Sample Holder	630304	**83056-82**
Heated Cuvette Holder	725201	**83056-77**
External Printer fitted with a battery and supplied with UK, EU and US power lead	SMP50/PRINTER	**83056-79**

Cole-Parmer®

SP-200 Series Spectrophotometers

- Multi-parameter display with wavelength and photometric readouts
- Easy and intuitive operation
- Entry-level single beam visible and UVNisible non-scanning spectrophotometers ideal for routine analysis

SP-200 Series Spectrophotometers

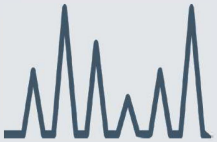
The SP-200 series spectrophotometers include model SP-200-VIS that covers the visible region of the spectrum, SP-250-VIS model with domed lid, and model SP-200-UV that uses a pulsed xenon lamp to extend the wavelength range into the UV region of the spectrum. All models have measurement modes for absorbance, percent transmittance and concentration. This makes the spectrophotometers ideal for basic photometric applications in schools and colleges, as well as in quality control laboratories.

Key Features

- Multi-parameter display with wavelength and photometric readouts
- Small footprint
- Wide range of sampling accessories
- Domed lid of SP-250-VIS accepts tubes up to 105 mm
- SP-200-UV utilizes a high quality pulsed xenon lamp
- Easy and intuitive operation
- 3 year warranty

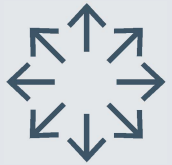
Versatile and Flexible Accessories

The SP-200 series has been specifically designed to accept a wide range of accessories. To accommodate various sample volumes, there is a wide range of passive accessories available including an adjustable cuvette holder which can hold cuvettes between 10 and 100 mm, a test tube holder for test tubes with diameters between 16 and 24 mm, and a micro-cuvette holder with a reduced aperature for small sample volumes. For multiple samples, we offer a four-position rotary cuvette holder.



Multiple measurement modes available

Push-button controls with simple user interface



Versatile and flexible accessories

Easy and intuitive operation

SP-200 Series Spectrophotometers

Temperature Control

Where temperature control is important, we offer a water heated cuvette option which requires a water bath and circulator (not supplied). For sampling applications, we offer an external sipper pump system which can be programmed to deliver controlled and reproducible sample volumes into the chamber of a flow-through cuvette, along with air and segmentation rinse cycles.

Design

The SP-200 series spectrophotometers are small and lightweight, making them easy to store or move to different locations within the laboratory. These instruments are easy to navigate, using push buttons to move around the simple user interface.

Technical Specifications

Model	SP-200-VIS	SP-250-VIS	SP-200-UV
Wavelength range	320 to 1000 nm	320 to 1000 nm	198 to 1000 nm
Wavelength resolution	1nm	1nm	1nm
Wavelength accuracy	±2 nm	±2 nm	±2 nm
Spectral bandwidth	8nm	8nm	8 nm, 6 nm over UV range
Transmittance	0 to 199.9% T	0 to 199.9% T	Oto 199.9% T
Absorbance	-0.3 to 1.999 A	-0.3 to 1.999 A	-0.3 to 1.999 A
Accuracy	±1% T	±1% T	±1% T
Resolution	0.1% T, 0.001 A	0.1% T, 0.001 A	0.1% T, 0.001 A
Stray light	<0.5% T	<0.5% T	<0.5% T at 220 and 340 m

SP-200 Series Spectrophotometers

Technical Specifications (continued)

Model	SP-200-VIS	SP-250-VIS	SP-200-UV
Noise	<1%	<1%	<0.001 A at 0 A at 400 nm
Stability	1%/h after 15 minutes	1%/h after 15 minutes	<0.002 A/h after 30 minutes
Concentration range	-300to1999	-300to1999	-300to1999
Concentration resolution	0.1 to 1	0.1 to 1	0.1 to 1
Units	ppm, mg/L, g/L, M, %, blank	ppm, mg/L, g/L, M, %, blank	ppm, mg/L, g/L, M, %, blank
Factor	Oto 999.9, 1000 to 9999	Oto 999.9, 1000 to 9999	Oto 999.9, 1000 to 9999
Light source	Tungsten halogen lamp	Tungsten halogen lamp	Xenon lamp
Outputs	Analog and RS-232	Analog and RS-232	Analog and RS-232
Power	<50W	<50W	<50W
Size (W x H x D):	36.5 x 16.0 x 27.2 cm (14.4 x 6.3 x 10.7")	26.2 x 11.4 x 19.3 cm (10.3 x 4.5 x 7.6")	36.5 x 16.0 x 27.2 cm (14.4 x 6.3 x 10.7")

Ordering Information

Cole-Parmer model	Jenway model	Jenway legacySKU	Item number
SP-200-VIS-115	6300 Visible Spectrophotometer -110 VAC, 60 Hz	630531	**79000-64**
SP-200-VIS	6300 Visible Spectrophotometer - 230 VAC, 60 Hz	630501	**83054-05**
SP-250-VIS-115	6320D Visible Spectrophotometer with Domed Lid -110 VAC, 60 Hz	632521	**83054-00**
SP-250-VIS	6320D Visible Spectrophotometer with Domed Lid - 230 VAC, 50 Hz	632501	**83054-07**
SP-200-UV-115	6305 UV-Visible Spectrophotometer -115 VAC, 60 Hz	635031	**99968-69**
SP-200-UV	6305 UV-Visible Spectrophotometer - 230 VAC, 50 Hz	635001	**99968-68**

SP-200 Series Spectrophotometers

Accessories

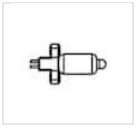
Description	Jenway legacy SKU	Item number
4 position manual cuvette holder	634001	**79000-67**
Sipper pump, supplied with inlet and outlet tubing (230V/50Hz)	632001	**83061-20**
Sipper pump, supplied with inlet and outlet tubing (110V/60Hz)	632031	**83061-21**
10x10mm path length cuvette holder	630204	**83070-41**
10mm cuvette and 16/24mm test tube holder	637071	**83070-43**
10 to 100mm adjustable path length cuvette holder	630005	**83056-80**
Micro-cuvette holder	630304	**83056-82**
Water heated 10x10mm single cuvette holder	648001	**83058-99**
Dual cell holder for 10mm cuvettes and 12.7mm diameter tubes (6320D ONLY)	632511	**83070-45**
Storage/carry case (not for use with 6320D)	033290	**83061-24**
Dust cover	630028	**83054-70**
RS232 to USB converter for use with computer without a serial port	037551	**99959-79**
Interface cable kit	542009	**53020-52**

Cole-Parmer® Spectrophotometer Accessories

Optimize performance of your Cole-Parmer® spectrophotometer

- Expand analysis capabilities or make testing easier
  Choose from a wide range of accessories including communication cables, replacement bulbs, and more for your Jenway® spectrophotomer.

item	Compatible With	Description
 EW-53020-52	Cole-Parmer SP-200 Spectrophotometers	RS-232 Interface Cable
 EW-79000-67	Cole-Parmer SP-200 Spectrophotometers	4 Position Manual Cuvette Holder

item	Compatible With	Description
 EW-83054-70	Cole-Parmer SP-200 Spectrophotometers	Dust Cover
 EW-83056-06	Cole-Parmer SP-400 Spectrophotometers	Microcuvette Holder, 10 x 10 mm square, 8.5 mm Beam Height Eppendorf Cuvettes
 EW-83056-28	Cole-Parmer SP-500, SP-600 Spectrophometers	Tungsten Halogen Bulb
 EW-83056-29	Cole-Parmer SP-500, SP-600 Spectrophometers	Automatic 8-Cell Changer

item	Compatible With	Description
 EW-83056-77	Cole-Parmer SP-400 Spectrophotometers	Heated Cuvette Holder
 EW-83056-79	Cole-Parmer SP-400, SP-500, SP-600 Spectrophotometer and MP-800 Melting Point Apparatus	Printer for Spectrometers and Melting Point Apparatuses
 EW-83056-80	Cole-Parmer SP-200,SP-350, SP-400, SP-500, SP-600 Spectrophotometers	Rectangular Long-Path Cell Holder; 10 to 100 mm
 EW-83056-82	Cole-Parmer SP-200, SP-400, SP-500, SP-600 Spectrophotometers	Graphical Scanning Spectrophotometer Micro-Cuvette Sample Holder

item	Compatible With	Description
 EW-83058-97	Cole-Parmer SP-200 Spectrophotometers	40 Column Serial Printer; 230 VAC
 EW-83070-31	Cole-Parmer SP-300, SP-350 Spectrophometers	Automatic Turet, 8 Cell
 EW-83070-33	Cole-Parmer SP-300, SP-350 Spectrophometers	Sipper Pump
 EW-83070-35	Cole-Parmer SP-300, SP-350 Spectrophometers	Electronic Peltier Cuvette Holder

item	Compatible With	Description
 EW-83070-37	Cole-Parmer SP-300, SP-350 Spectrophometers	Combination Sipper-Peltier Cuvette Holder
 EW-83070-39	Cole-Parmer SP-300, SP-350 Spectrophometers	Internal Printer
 EW-83070-41	Cole-Parmer SP-200,SP-350, SP-400, SP-500, SP-600 Spectrophotometers	Cuvette Holder, 10 x 10mm Square
 EW-83070-43	Cole-Parmer SP-200,SP-350, SP-400, SP-500, SP-600 Spectrophotometers	Cuvette Holder, 16 or 24 mm Diameter or 10 mm Square

item	Compatible With	Description
 EW-83070-45	Cole-Parmer SP-200 Spectrophotometers	Cuvette Holder, 10 mm Square or 13 mm Diameter
 EW-99950-04	Cole-Parmer SP-200 Spectrophotometers	Tungsten Halogen Lamp (for 6300, 6320D, 6310, or Aquanova)

Accessories for Cole-Parmer® SP-800 Double-Beam Spectrophotometers

Optimize performance of your Cole-Parmer® spectrophotometer

- Choose accessories compatible with your double-beam spectrophotometers
  Expand the capabilities of your spectrophotometer with these cell, cell holder, changer, sipper, and peltier options.

item	Description
 EW-83070-53	Single-Cell Holder, 10 x 10 mm Square Cuvettes
 EW-83070-55	Single-Cell Holder, Waterheated,10 x 10 mm

item	Description
 EW-83070-57	Single-Cell Holder, 10 x100 mm Path Length
 EW-83070-59	Single-Cell Holder, Micro-Cuvettes
 EW-83070-61	Automatic Cell Changer, 8-Position

Cole-Parmer® Spectroscopy Standards Kits for UV-Visible Spectrophotometers

Easily and accurately perform certified spectrophotometer evaluations in any visible or UV-visible spectrophotometer!

- Standards are durable, scratch-resistant and never need to be replaced
- ISO 17025 accredited for testing and calibration and NIST compatible
Verify the performance and accuracy of your spectrophotometer right in your own lab. These permanent standards do not have to be recalibrated due to material aging. Unique material construction is scratch resistant and provides stable optical performance.

item	Photometric Accuracy	Stray Light	Description
 EW-02660-01	Yes	Yes	UV/Vis Photometric Accuracy and Stray Light Calibration Kit

item	Photometric Accuracy	Stray Light	Description
 EW-02660-02	Yes	No	Photometric Accuracy Calibration Kit for Spectroscopy
 EW-02660-04	Yes	Yes	Photometric Accuracy and Stray Light Calibration Wavelength Kit

Cole-Parmer Tungsten Halogen Lamp (for 6300, 6320D, 6310, or Aquanova)

Cole-Parmer – Item # EW-99950-04

Optimize performance of your Cole-Parmer® spectrophotometer

- Expand analysis capabilities or make testing easier
- 1 year warranty

Specifications & Description

- Compatible WithCole-Parmer SP-200 Spectrophotometers
- DescriptionTungsten Halogen Lamp (for 6300, 6320D, 6310, or Aquanova)
- Warranty1 year

1 YEAR Warranty

MORE ABOUT THIS ITEM

Choose from a wide range of accessories including communication cables, replacement bulbs, and more for your Jenway® spectrophotomer.

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