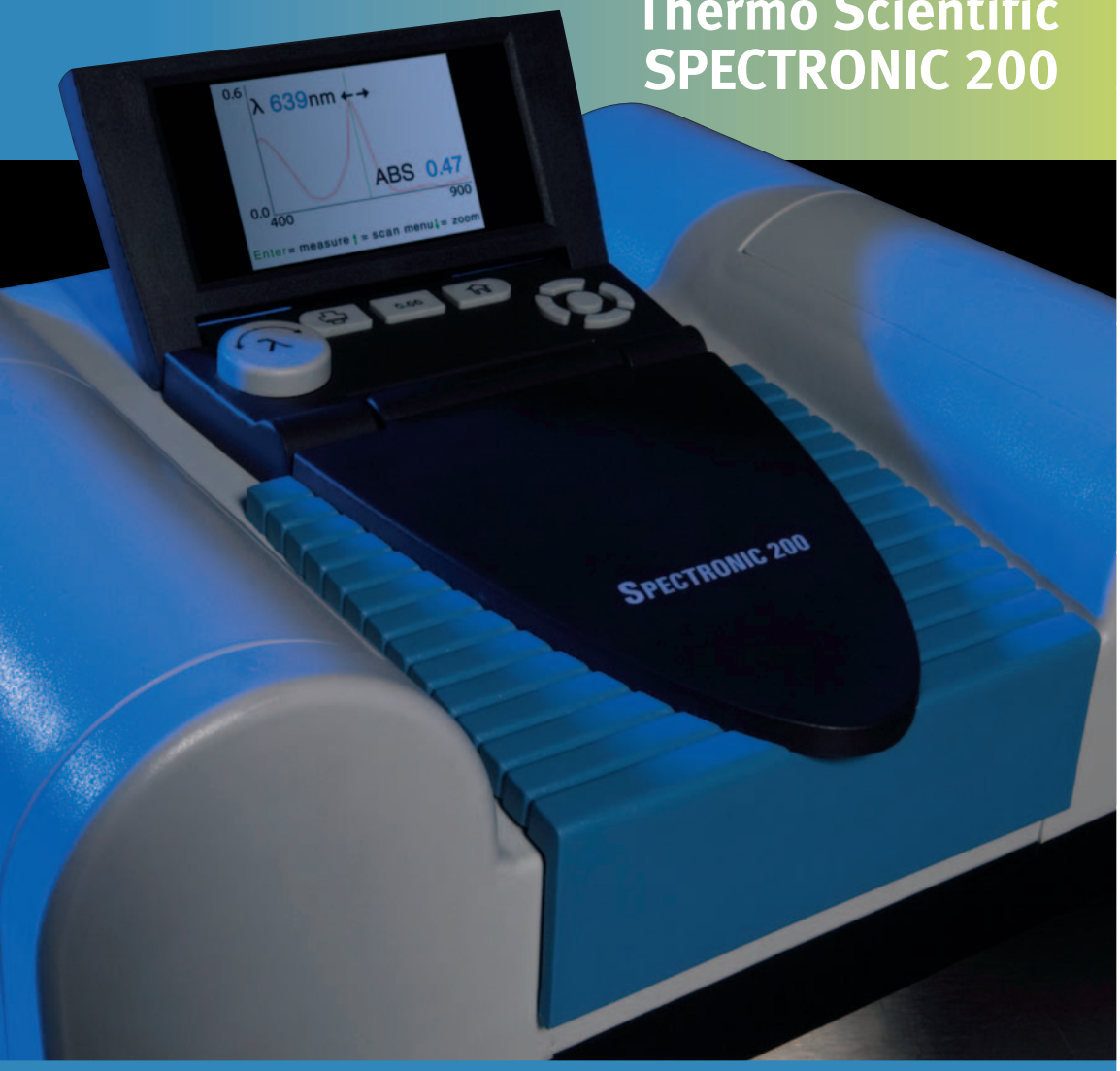
MOLECULAR SPECTROSCOPY

Thermo Scientific SPECTRONIC 200



Part of Thermo Fisher Scientific

Thermo SCIENTIFIC

The New Standard for Routine Measurements

Thermo Scientific SPECTRONIC spectrophotometers have served as core analytical instruments in instructional and routine analytical laboratories since 1953. The SPECTRONIC™ 200 spectrophotometer continues this tradition as the new standard for the 21st century. It couples the simplicity and reliability of the SPECTRONIC 20 and GENESYS 20 instruments with 21st century technology and bold new design features that promise years of trouble-free performance.

Smart Technology, Simplicity and Speed

Smart Technology

The CCD detector measures each portion of the spectrum with the ideal integration time to account for lamp intensity and detector sensitivity. This provides the best possible photometric performance for accurate, reliable results no matter where in the spectrum a measurement is made.

Simplicity

- No need to do a zero %T measurement – the instrument does this at start-up
- No need to repeat a 100%T measurement every time you change the wavelength in Live Display mode. When you *autozero*, 100%T is recorded at all wavelengths
- Wavelength knob labeled with a λ to set or change the wavelength
- One touch printing with a USB printer

Speed

- Live measurements update every 2 seconds
- Scan from 400 nm to 900 nm in about 10 seconds

Total Control without a Computer

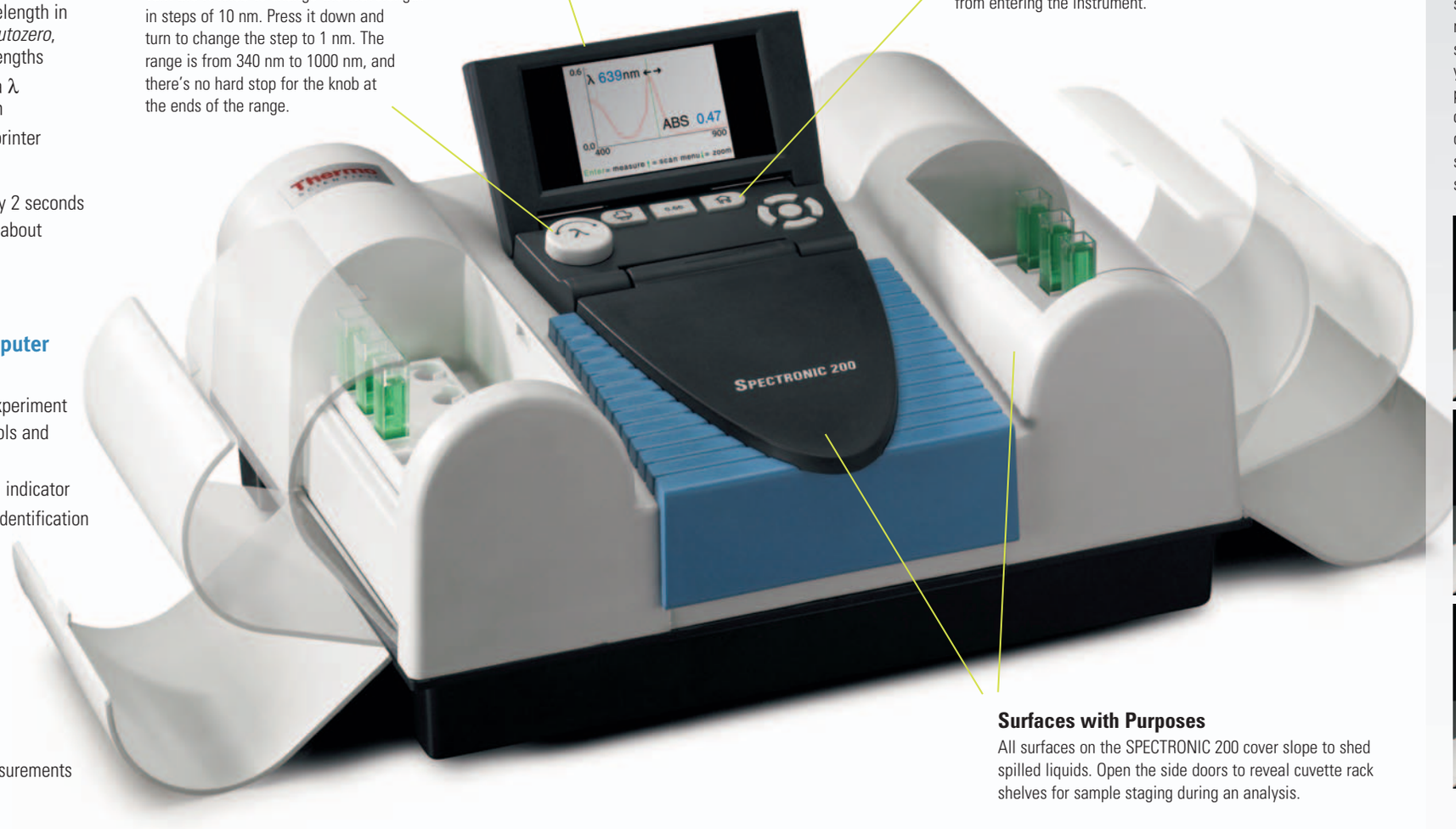
The stand-alone SPECTRONIC 200 spectrophotometer provides the experiment modes you use with its own controls and screen that offer:

- Live display with color spectrum indicator
- Full spectrum scanning for peak identification
- Emulation of legacy instrument interfaces for easy integration into existing laboratories and protocols
- Quantitative analysis with up to four standards or a user entered factor
- Wavelength selection with the λ knob or the arrow keys
- Four point fixed wavelength measurements

Adjustable Tilt Screen
Set the screen at the perfect angle for viewing by users of all heights. Fold it down below the top level of the instrument for compact and safe storage.

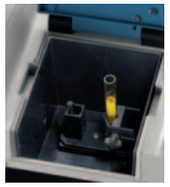
Coarse/Fine Wavelength Setting
Turn the λ knob to change the wavelength in steps of 10 nm. Press it down and turn to change the step to 1 nm. The range is from 340 nm to 1000 nm, and there's no hard stop for the knob at the ends of the range.

Sealed Keys
Tactile rubber keypad forms a seal with the top cover to prevent spills from entering the instrument.



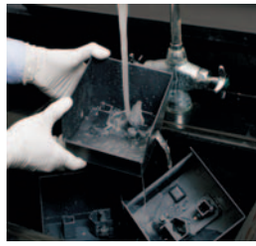
Surfaces with Purposes
All surfaces on the SPECTRONIC 200 cover slope to shed spilled liquids. Open the side doors to reveal cuvette rack shelves for sample staging during an analysis.

Robust, Multifunction Sample Compartment
Whether you measure in 10 mm square cuvettes or in test tube cuvettes up to 25 mm diameter, the standard sample compartment stage adapts to be the perfect fit for your sample.

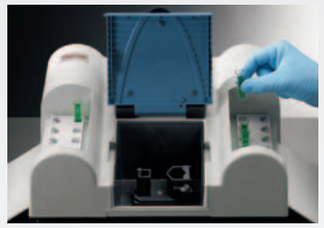


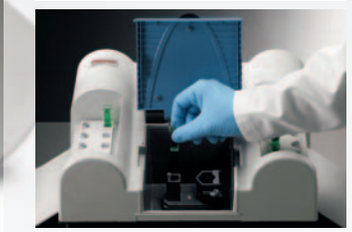
Spills happen. You can't prevent it, but the SPECTRONIC 200 spectrophotometer is ready to handle it. The sample compartment features:

- Capacity for up to 250 mL of spilled liquid
- Simple lift-out for easy cleaning in the sink
- Plastic construction to resist acid solutions
- Lid that covers the control pad and screen providing extra protection when samples are being moved in and out of the compartment



Convenient Cuvette Rack Compartments
Compartments to the right and left of the sample compartment are equipped with removable cuvette racks designed to hold six square or test-tube cuvettes. Prepare your samples in a wet chemistry area and put them in a rack. Place the full rack in one compartment and the empty rack in the other. It's easy to keep clear track of which sample is which as you measure and move samples from one side to the other.

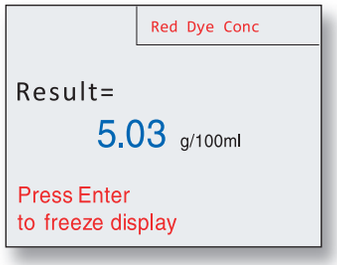


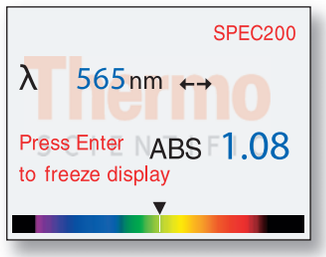


Modern On-Board Software

Program Standard Methods with the Analyzer Mode*

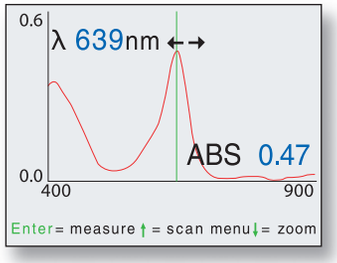
With the SPECTRONIC 200 spectrophotometer you won't need to re-enter methods every time. Simply load your Analyzer method from a USB memory stick and start working. The programmable Analyzer mode lets you choose up to four wavelengths and factors, then combine them in an equation you create. Specify your own result unit and name your method using an on-screen keyboard. The working screen shows only the method name, the result and the unit. Print the screen as a permanent record and remove the possibility of transcription and calculation errors.





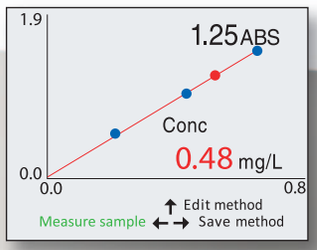
Live Display for the 21st Century

Measurement wavelength and result are shown in large clear text. A spectrum along the bottom of the screen indicates what color this wavelength represents. The display updates regularly, and you can freeze the display if desired.



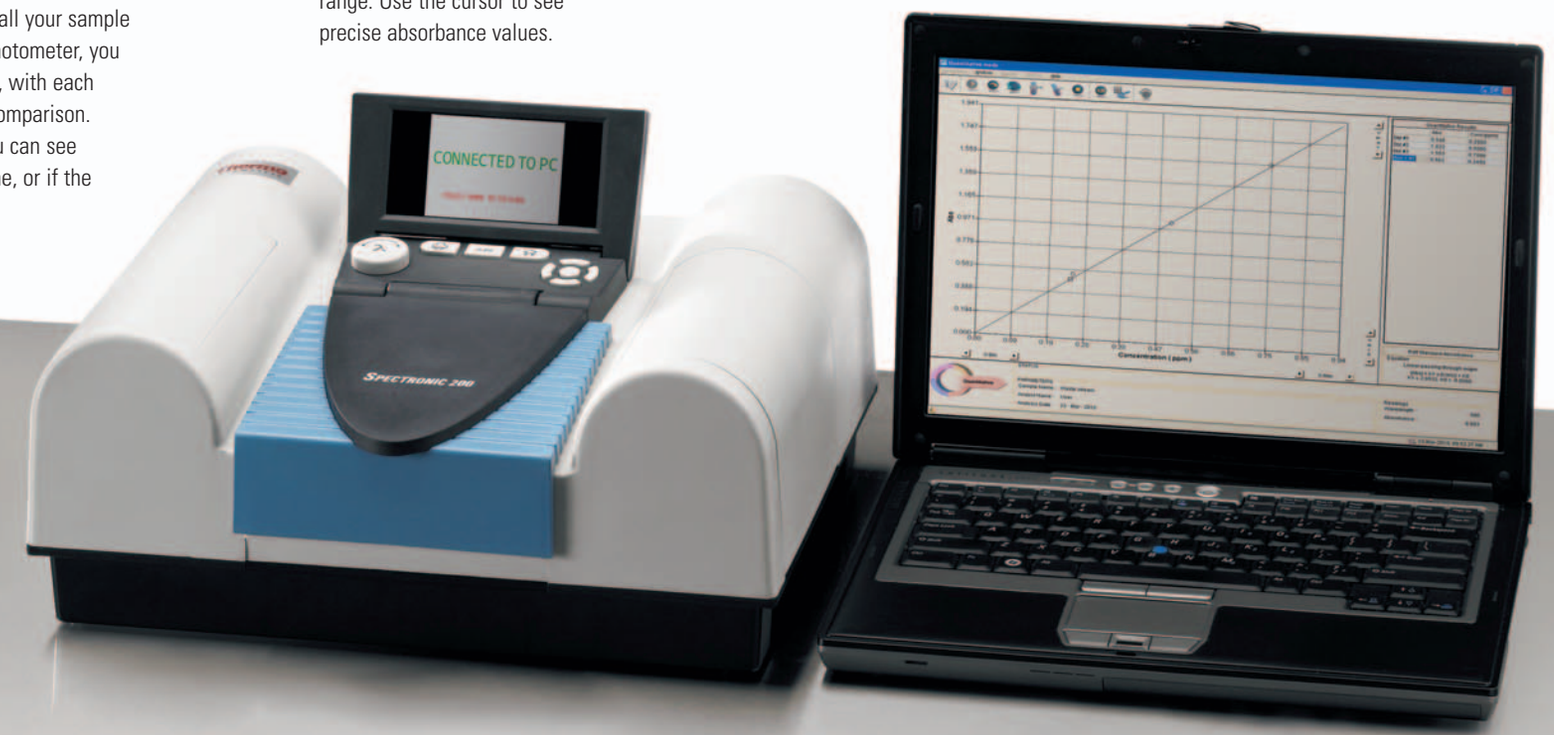
Quantitative Analysis with Standards or a Factor

Single standard calibrations are common, but if an error occurs in that one standard, it carries into all your sample data. With the SPECTRONIC 200 spectrophotometer, you can measure and plot up to four standards, with each sample data point plotted on a graph for comparison. With a graphical display of quant data, you can see whether the standards fall on a straight line, or if the sample lies outside the calibrated range.



Scan

Scan a full spectrum or a defined range. Use the cursor to see precise absorbance values.



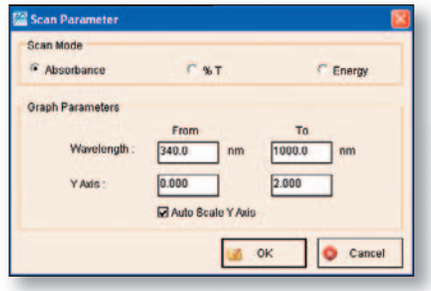
** Not included with education bundles*

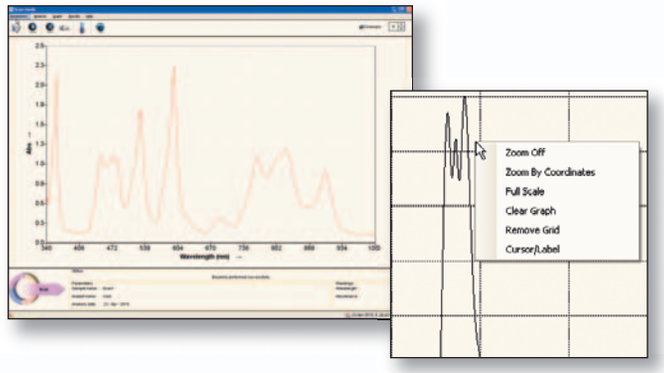
piQue Software for Expanded Capabilities

Full Power of the Instrument at the Click of a Mouse

Thermo Scientific piQue software offers a modern look with intuitive controls that allow you to collect, process and present your data quickly and with ease.

Parameter setup dialogs offer only the settings you need, with no confusing options to distract users or spoil data.





Data display is clear and concise, and the most common graph manipulation controls are easily accessible via a right-click, drop-down menu.

piQue™ software shows your quantitative analysis data in both graph and table format. For clarity, standards are shown as circles and samples as squares. All data are presented in a table at the right side of the screen.

Use Your Existing Protocols

Emulation Modes Offer Seamless Integration

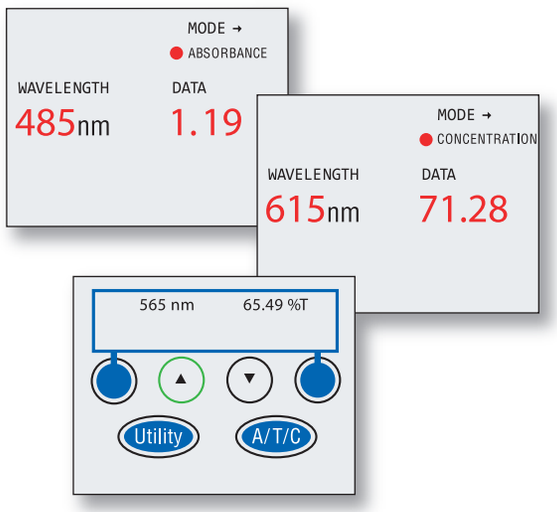
Whether you are equipping a whole laboratory or adding to your existing instrument set, the SPECTRONIC 200 spectrophotometer smooths the transition from old to new technology. The SPECTRONIC 200 on-board software includes full emulation of SPECTRONIC 20 and Thermo Scientific GENESYS 20 control sets. This allows you to continue using your current laboratory protocols and instruction sets. Plus, if budgets are tight, you don't need to replace all your instruments at once.

SPECTRONIC 20 Emulation

All data modes from this Thermo Scientific stalwart are faithfully reproduced in this emulation. Right and left arrows change mode, the knob sets wavelength, and the up/down arrows set concentration and factor for quant methods. It's just like using a SPEC 20 instrument.

GENESYS™ 20 Emulation

Use the navigation pad to highlight and press on-screen buttons. Your existing operating instructions will work perfectly for users running this emulation mode.



The Perfect Fit—On or Off the Bench

The SPECTRONIC 200 spectrophotometer takes design for the routine or teaching laboratory to a new level. We've put the experience and knowledge gained from supporting over half a million SPECTRONIC instruments into designing an instrument that's worthy of the SPECTRONIC name and ready to serve in laboratories around the world. The SPECTRONIC 200 spectrophotometer is:

- ***Easy to Set up***
  - Just plug it in and power it up
  - USB connection for optional computer control
- ***Easy to Use***
  - Supports cuvettes or test-tubes up to 25 mm in basic configuration
  - Room-light resistant—run tall test tubes with the lid open
  - Full color, variable angle LCD screen
  - New scan and multi-point quant software
  - Legacy instrument emulation modes
  - Intuitive navigation
  - Convenient coarse/fine wavelength control
  - Includes cuvette racks and storage compartments
- ***Easy to Maintain***
  - Sample compartment lid protects controls from spills while open
  - Sample compartment contains up to 250 mL of spilled liquid and lifts out for easy cleaning
  - All top surfaces slope to shed spills
  - Polymer construction for chemical resistance
  - No motorized parts to wear out
  - Fixed grating for consistent wavelength accuracy
  - Trap-door mounted lamp for easy replacement
- ***Easy to Store***
  - Rubber feet on the back surface let you stack instruments on a shelf like books
  - Storage compartments hold your empty cuvette racks
  - Removable power cable can be coiled and stored in the sample compartment

Specifications

Optical Design		Single Beam
Spectral Bandwidth		≤ 4 nm
Light Source		Tungsten-halogen
Detector		2048 element CCD
Wavelength	Range	340 nm – 1000 nm
	Accuracy	± 2 nm
	Repeatability	± 1 nm
	Data interval	1 nm
Photometric	Range	-0.3 A to 2.5 A
	Readout	ABS, %T, Concentration
	Accuracy	± 0.01 A at 0.3 A ± 0.05 A at 1.0 A (SPECTRONIC standard filters measured at 590 nm)
	Repeatability	± 0.3 %T at 50 %T
Stray Light		< 0.2 %T (with SPECTRONIC standard SRM 400 filter)
Display		Variable angle 320 x 240 pixel color graphical LCD 7 × 5 cm, 8.6 cm diagonal (2.75" × 2", 3.4" diagonal)
Keypad		Sealed tactile rubber
Standard Features	Sample compartment	Lifts out for cleaning.
	Cuvette racks and compartments	2 included with dedicated compartments
	Included cuvettes	1 cm plastic (quantity 10)
Standard Interfaces		USB-B for connection to a remote computer USB-A for connection to a printer or USB memory device
Languages		On-board software in English, Spanish, French, German and Italian
Power Requirements		100 – 240 V, 50 - 60 Hz (selected automatically)
Dimensions		39 cm W × 30 cm D × 16 cm H (15.3" W × 11.8" D × 3.6" H)
Weight		4.4 kg (9.7 lbs)

Ordering Information

Description	Part Number
SPECTRONIC 200, 115 V, US Power Cord	222-265700
SPECTRONIC 200, UK Power Cord	222-265800
SPECTRONIC 200, Euro Power Cord	222-265900

Optional Software and Accessories	Part Number
piQue Software, Single User License	869-142000
piQue Software, Six User License	869-142100
piQue Software, Site License	869-142200
Long Path Rectangular Cell Holder to 100 mm	840-214100
Long Path Cylindrical Cell Holder to 100 mm	840-214200
Epson® TM-T88IV Continuous Feed Printer	222-268200
Cuvette Rack – package of 6	222-265600

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Belgium +32 53 73 42 41
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China +86 10 8419 3588
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Europe-Other +43 1 333 50 34 0
Finland/Norway/Sweden +46 8 556 468 00
France +33 1 60 92 48 00
Germany +49 6103 408 1014
India +91 22 6742 9434
Italy +39 02 950 591
Japan +81 45 453 9100
Latin America +1 561 688 8700
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