

thermo scientific



The perfect tool for everyday demands

Thermo Scientific SPECTRONIC 200
Visible Spectrophotometer

ThermoFisher
SCIENTIFIC

The standard for teaching and analytical laboratories

The Thermo Scientific™ SPECTRONIC™ 200 Spectrophotometer is a thoughtfully designed solution that meets the demands of students, educators and analytical lab technicians. It blends the simplicity to appeal to novice users with the capabilities that analytical labs need for accurate quantitative analysis.

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:

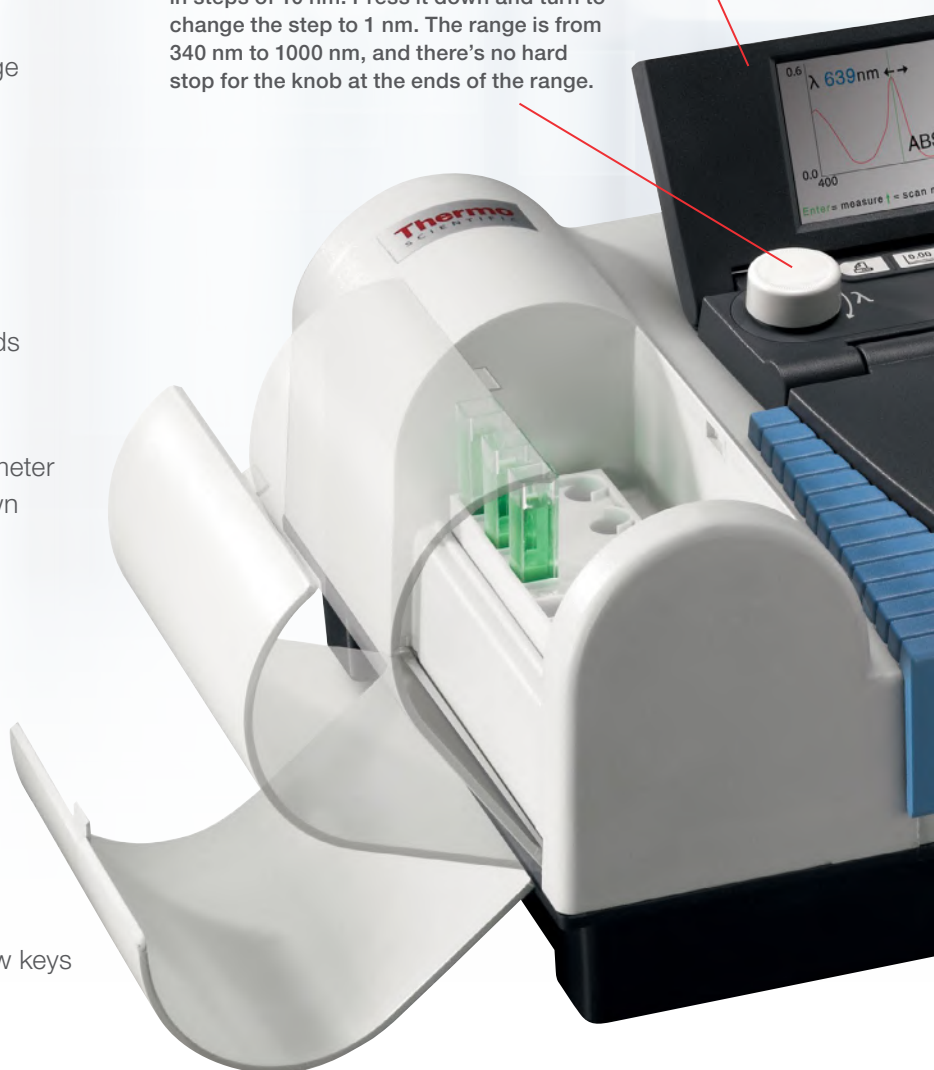
- Live display with color spectrum indicator
- Full spectrum scanning for peak identification
- Emulation of legacy instrument interfaces for easy integration into existing laboratories and protocols
- Quantitative analysis with up to four standards or a user entered factor
- Wavelength selection with 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.



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.



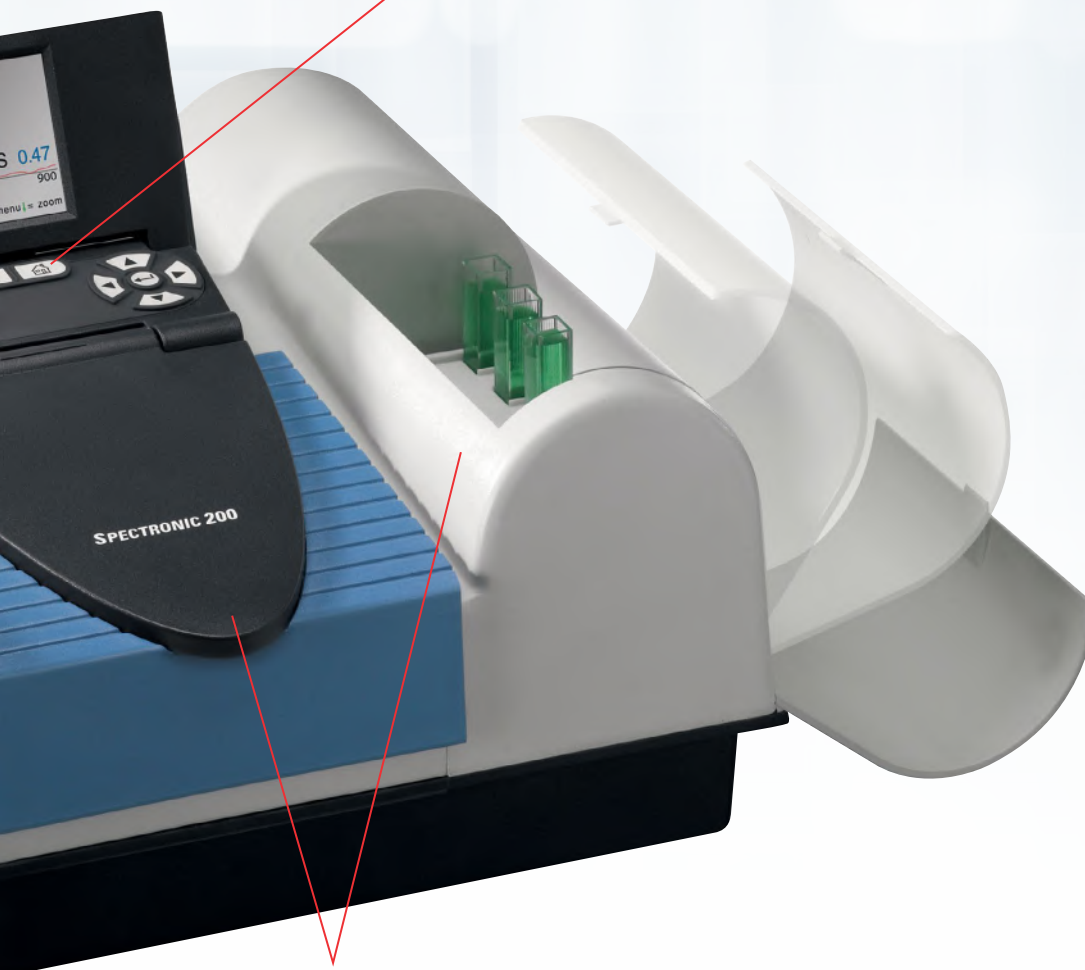
Spills happen. You can't prevent them, but the SPECTRONIC 200 Spectrophotometer is ready to handle it. The sample compartment features:

- 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 for extra protection when samples are being moved in and out of the compartment



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.

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.

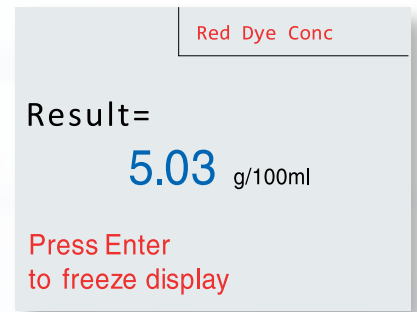
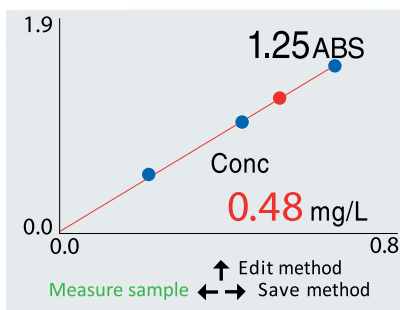
Live display for the 21st century

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.



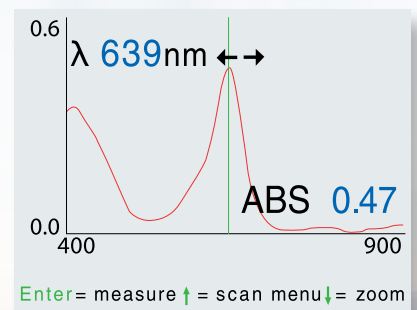
Quantitative analysis with standards or a factor

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.

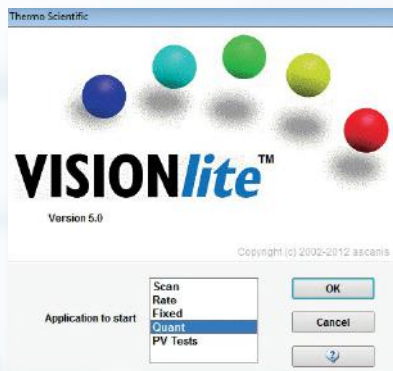
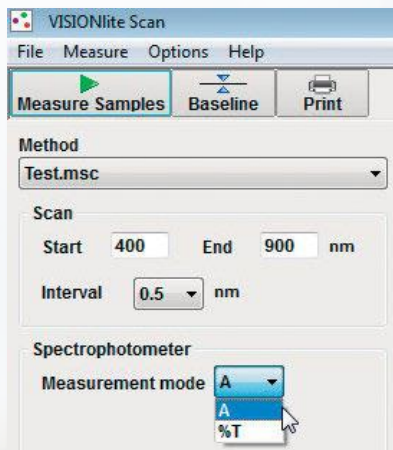


* Not included with SPECTRONIC 200 Educator model

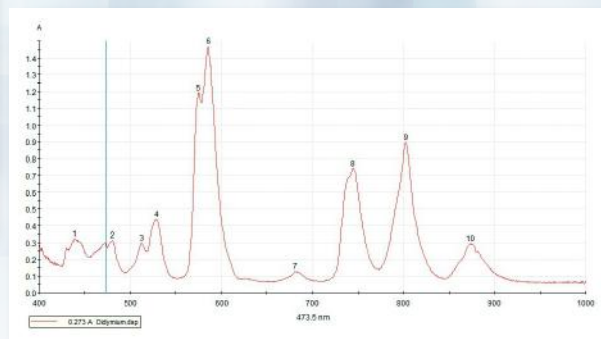
Expanded capabilities

Full power of the instrument at the click of a mouse

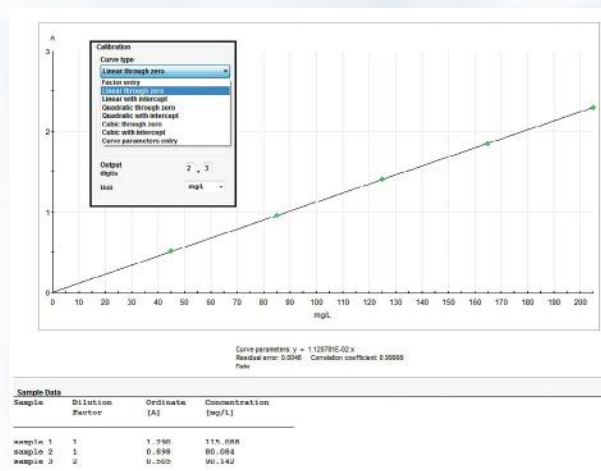
Thermo Scientific™ VISIONlite™ Software offers a modern look with intuitive controls that allow you to collect, process and present your data quickly and with ease.



The experiment parameters are clearly displayed, offering all the settings you need to configure simple experiments. Specialized options are only a click away, easily accessible to the advanced user but hidden from the novice.



Data display is clear and concise. Graphical display includes optional peak picking and curve fitting. Data tables are displayed below the graph in a scrolling frame.



Quantitative analysis gives you flexibility to fit multiple curve types or enter a factor. Customize your data display precision and result unit. Result reports include the calibration graph, curve fit, standard solution data and experimental results.



Use your existing protocols



Emulation mode offers 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 the SPECTRONIC 20D+ control set. 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.

| | |
|------------|--------------|
| | MODE → |
| | ● ABSORBANCE |
| WAVELENGTH | DATA |
| 485nm | 1.19 |

| | |
|------------|-----------------|
| | MODE → |
| | ● CONCENTRATION |
| WAVELENGTH | DATA |
| 615nm | 71.28 |

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
- Scan and multi-point quant software
- Legacy instrument emulation mode
- Intuitive navigation
- Convenient coarse/fine wavelength control
- Includes cuvette racks and storage compartments

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 stored in the sample compartment

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 access to lamp for easy replacement



Specifications

| | | |
|----------------------------|--------------------------------|---|
| Optical Design | | Single Beam |
| Spectral Bandwidth | | ≤4 nm |
| Light Source | | Tungsten-halogen |
| Detector | | 2048 element CCD |
| Wavelength | Range | 340 nm to 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 × 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, Italian, Korean, Japanese, Chinese and Thai** |
| 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 | | 5.2 kg (11.4 lbs) |
| Warranty | | 1 year |

* Standard model reports data to 3 decimal places. Educator model reports data to 2 decimal places

** Educator model only features English, Spanish, and Thai

Ordering information

| Description | Part Number | Optional Software and Accessories | Part Number |
|----------------------------------|-------------|---|-------------|
| SPECTRONIC 200, US Power Cord | 840-281700 | VISION/ite 5 Software, Single User License | 834-091300 |
| SPECTRONIC 200 Educator* | 840-282500 | VISION/ite 5 Software, Six User License | 699-129900 |
| SPECTRONIC 200, UK Power Cord | 840-281800 | VISION/ite 5 Software, Twelve User License | 699-130000 |
| SPECTRONIC 200, EU Power Cord | 840-281900 | Long Path Rectangular Cell Holder to 100 mm | 840-250500 |
| SPECTRONIC 200, IN/ZA Power Cord | 840-282100 | Long Path Cylindrical Cell Holder to 100 mm | 840-250600 |
| SPECTRONIC 200, AU Power Cord | 840-281600 | Cuvette Rack – package of 6 | 222-265600 |
| SPECTRONIC 200, JP Power Cord | 840-282000 | Epson® TM-T88 Continuous Feed Printer | 840-234000 |
| SPECTRONIC 200, CN Power Cord | 840-282400 | Replacement Lamp – package of 2 | 335423-000 |
| | | SPECTRONIC Standards 2 | 840-253100 |

* Available in NA from authorized dealers only



Learn about SPECTRONIC 200 at
thermofisher.com/spec200



Request a free trial at
thermofisher.com/spec200freetrial



Request a quotation at
thermofisher.com/uvquote

ThermoFisher
SCIENTIFIC