TURNER MICROPROCESSOR CONTROLLED

All three digital models offer flexibility, sensitivity, and reliability. Yet each has its own niche. The SP-830 series is economical and versatile. The SP-850 is convenient. And the SP-870 series is high performance. Whether you work in biotechnology, industry, or environmental science, these spectrophotometers will work for you.

BENEFITS

- With a continuous spectral range of 330-999 nm, the Turner 800 series spectrophotometers are used for various types of routine tests performed in clinical and industrial laboratories for photometric analyses.
- The spectrophotometers use a plane diffraction grating monochromator with sine bar mechanism in an f7 Ebert mounting with first surface reflective optics.
- Five switchable second-order stray light filters are built in to eliminate the inconvenience of exchanging filters.
- The 8 nm narrow spectral bandwidth (5 nm for SP-870) provides high resolution and optimal accuracy.
- The large versatile sample compartment fits both round tubes (12-13 mm diameter) and standard square cuvettes.
- A unique “AUTO-ZERO” function that automatically zeros your blank.
- Error messages to alert when the instrument is malfunctioning.
- Analog output to interface the instrument to a data processor, strip chart recorder, or other external device.
- Serial RS-232C and parallel centronics printer port enables the spectrophotometer to connect with a computer or external printer.
- User friendly software allows even inexperienced personnel to operate the unit without touching a manual.
- Reliability and stability are secured by maintenance - free features, and quality is guaranteed with a 12-month warranty.
- Large easy to read wavelength selector that is graduated in 1nm increments.
- Fan cooling that ensures temperature stability.
- Decimal key permits a choice for decimal placement.
- Factor mode permits you to trace day to day variations in your applications.
- Large versatile keyboard.
- Built in calibration standards.
- 5 nm spectral bandwidth for even higher resolution
- 20 X 2 LCD display
- LCD wavelength readout
- Automatic filter selection
- Digital wavelength selection
- Built in performance verification

NEW

SP-830 OFFERS:

- Signal processing controlled by microprocessor.
- Auto-zero pushbutton (100% T/OA) that makes setting of 100% TRANS and 0.000 ABS an easy job.
- RS-232C and optional printer interfaces provide external data output.
- Built in stray light filters.

SP-850 HAS THE SAME FEATURES AS THE SP-830 PLUS...

- Concentration mode allows you to read the concentration directly from the unit. Eliminates operator errors associated with hand calculations and conforms to GLP.
- A larger 4.5 digit LED allows large concentration and factor values to be displayed.
- RS-232C and printer interfaces are supplied with the instrument.

Compact Design
Intuitive Software
Auto Zero Feature

SP-870 OFFERS ALL THE FEATURES SP-850 PROVIDES PLUS THE FOLLOWING UPGRADES.

- 5 nm spectral bandwidth for even higher resolution
- 20 X 2 LCD display
- LCD wavelength readout
- Automatic filter selection
- Digital wavelength selection
- Built in performance verification
**Ordering Information:**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Voltage</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM110215</td>
<td>120V</td>
<td>SP-830 Spectrophotometer</td>
<td></td>
</tr>
<tr>
<td>SM110210-33</td>
<td>230V w/European Cord</td>
<td>SP-830 Spectrophotometer</td>
<td></td>
</tr>
<tr>
<td>SM110225</td>
<td>120V</td>
<td>SP-850 Spectrophotometer</td>
<td></td>
</tr>
<tr>
<td>SM110220-33</td>
<td>230V w/European Cord</td>
<td>SP-850 Spectrophotometer</td>
<td></td>
</tr>
<tr>
<td>SM110235</td>
<td>120V</td>
<td>SP-870 Spectrophotometer</td>
<td></td>
</tr>
<tr>
<td>SM110230-33</td>
<td>230V w/European Cord</td>
<td>SP-870 Spectrophotometer</td>
<td></td>
</tr>
</tbody>
</table>

-33 Models CE Marked

**Accessories**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Descriptions</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>34F01-15</td>
<td>Cuvette, Round, 100 x 13 mm Round Borosilicate Glass, 6 ea.</td>
<td></td>
</tr>
<tr>
<td>34F01-14</td>
<td>Cuvette, Square, Micro Disposable Polyethylene, 0.5 - 2.9 ml capacity, 500 ea.</td>
<td></td>
</tr>
<tr>
<td>34F01-12</td>
<td>Cuvette, Square, Disposable Polyethylene, 0.5 - 4.5 ml cap. 500 ea.</td>
<td></td>
</tr>
<tr>
<td>34F01-10</td>
<td>Cuvette, Square, Micro UV Quartz, 0.5 - 2.9 ml cap. Matched pair</td>
<td></td>
</tr>
<tr>
<td>34F01-08</td>
<td>Cuvette, Square, Micro-Glass, 0.5 - 2.9 ml cap. Matched pair</td>
<td></td>
</tr>
<tr>
<td>34F01-06</td>
<td>Cuvette, Square, UV Quartz, 1.5 - 4.5 ml cap. Matched pair</td>
<td></td>
</tr>
<tr>
<td>34F01-04</td>
<td>Cuvette, Square, Glass, 1.5 - 4.5 ml cap. Matched pair</td>
<td></td>
</tr>
</tbody>
</table>

**Common Specifications for all Models:**

- **Absorbance Mode:** 0.000 - 2.000A
- **Stability:** Drifting 0.003A/hr after half hour warm-up at 0A
- **Analog Output:** 0.00 - 1.00V
- **Stray Light:** 0.1% T typical at 340 nm, < 0.5%T 330-999 nm
- **Cuvettes:**
  - A) Round cuvettes 12-13 mm in diameter
  - B) Square cuvettes 12.5 x 12.5 x 45 mm, 1 cm pathlength (optional)
- **Transmittance Mode:** 0 - 100.0% T
- **Wavelength Range:** 330-999 nm
- **Wavelength Accuracy:** ±2 nm
- **Weight:** 19.8 Lbs (9 kg)
- **Photometric Accuracy:** 1% at 1A
- **Photometric Linearity:** 1%
- **Power:** 120 or 230 VAC 50/60 Hz models
- **Signal Processing:** Digital, Microprocessor

**Model Specifications**

<table>
<thead>
<tr>
<th>Model #</th>
<th>SP-830</th>
<th>SP-850</th>
<th>SP-870</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth Pass</td>
<td>8 nm (nominal)</td>
<td>8 nm (nominal)</td>
<td>5 nm (nominal)</td>
</tr>
<tr>
<td>Wavelength Setting</td>
<td>Manual</td>
<td>Manual</td>
<td>Automatic</td>
</tr>
<tr>
<td>Filter Selection</td>
<td>Manual</td>
<td>Manual</td>
<td>Automatic</td>
</tr>
<tr>
<td>Concentration Mode</td>
<td>-</td>
<td>0 - 19,999</td>
<td>0 - 19,999</td>
</tr>
<tr>
<td>Data input</td>
<td>-</td>
<td>Keyboard</td>
<td>Keyboard</td>
</tr>
<tr>
<td>Display</td>
<td>3.5 digit</td>
<td>4.5 digit</td>
<td>20 x 2 LCD</td>
</tr>
<tr>
<td>Factor Mode</td>
<td>-</td>
<td>1 - 19,999</td>
<td>1 - 19,999</td>
</tr>
<tr>
<td>Interface</td>
<td>RS232C (supplied), Printer (optional)</td>
<td>RS232C, Printer</td>
<td>RS232C, Printer</td>
</tr>
</tbody>
</table>

**Spectrophotometer TURNER MICROPROCESSOR CONTROLLED**