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TECHNOLOGY GROUP

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Find the *Spectroline / Spectronics XL-1000* at our website: ***Click HERE***



Background

One of the persistent problems facing researchers working with nucleic acids is that the genetic materials can be damaged by the very processes used to study them. For example, to achieve high sensitivity with low background signals during nucleic acid hybridization or re-probing; high concentrations of salts such as sodium dodecyl sulfate (SDS) or detergents are added to the hybridization buffers and washes. This often leads to loss of nucleic acid from blotted hybridization membranes resulting in lowered or no positive signals.

Strengthening the bonds of the genetic material to the membrane offers the ideal solution to this problem. Covalent binding can be achieved by UV crosslinking or by prolonged vacuum baking of the membranes, which often causes heat damage to the samples. The crosslinking process utilizes short wave (254nm) UV light to covalently bond nucleic acids to either nitrocellulose or nylon membranes — a process whereby thymine dimers are formed between the nucleic acids and the membrane. UV crosslinking is a quick, easy and effective procedure to avoid the loss of nucleic acids during the hybridization process leading to increased sensitivity and enhanced signals.

The **Spectrolinker™** was developed to be one of the most advanced, versatile and accurate UV crosslinkers. With the success of Spectrolinker came the **Select™** series UV crosslinkers, created specifically for the needs of researchers with limited budget. Designed to monitor UV radiation and self-adjust to variations in UV intensity, all Spectroline UV crosslinkers feature a “smart” microprocessor controller and unique true UV monitoring circuitry to enable users to get error-free results with speed, accuracy and safety. These units are built specifically to eliminate time-consuming adjustments, unnecessary repetitive programming and unwarranted risk of sample damage.

Product Lines

Spectrolinker™ Series

- Rugged, anodized aluminum housing
- Long lasting anodized aluminum chamber prevents rusting
- Available in SW, MW and LW wavelengths
- Interior chambers available in two sizes

Select™ Series

- Cost-effective, painted metal housing
- Long-lasting anodized aluminum chamber prevents rusting
- Available in SW, MW and LW wavelengths

Features

- Covalently binds nucleic acid sequences and hybridization membranes in 30 seconds or less
- Safeguards your valuable test results from washouts
- Ensures optimum nucleic acid membrane binding, even when UV output varies
- Provides ultimate ease of use and accuracy with “Smart” microprocessor controller
- Protects users from UV exposure with fully enclosed chamber

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UV Crosslinkers

Applications

UV crosslinking of DNA and RNA after Northern, Southern, slot or dot blots and colony or plaque lifts. PCR decontamination. Nicking ethidium bromide-stained DNA in agarose gels. Gene mapping for cleavage-inhibiting thymine dimers. RecA mutation screening in E.coli. UV sterilization. Continuous UV dosing. Miscellaneous UV-dosage applications including UV-induced polymerization or drying

Spectrolinker™ Series



Select™ Series



The 254nm versions of the Spectrolinker and Select series UV crosslinkers provide super-fast DNA and RNA crosslinking to membranes for improved hybridization-signal sensitivity. At peak, these units can process samples in *under 30 seconds* — that's *240 times faster* than vacuum-oven baking! Our exclusive, wavelength-specific, multi-stack UV photo sensor, which is factory-calibrated to NIST standards, provides precise UV-only dosage measurements. Full range display resolution is accurate to 5µW/cm² EMI/RFI protection. All models from both series offer exceptional accuracy and precision irradiation, even compensating for aging UV tubes when output diminishes over time.



Programmable "Smart" Microprocessor Controller

- LED-function indicators and color-coded keypad
- Built-in "help" messages
- Four operation modes
- Auto Repeat function remembers last operation without reprogramming

Four operation modes —

- Optimal Crosslink mode automatically provides a preset UV energy dosage of 120 mJ/cm²
- Energy-set mode (0-999,990 µJ/cm²) allows for variable amounts of UV energy to be programmed
- Time mode (0-9,900 seconds), allows for variable time settings to be established
- Intensity mode shows steady-state UV intensity output

Note: All units have an irradiance display resolution of ±5µW/cm² over the entire range.

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Built-in “help” messages —

- Bulb: When the UV tubes need to be replaced
- Door open: the unit also protects users from accidental UV radiation when the door is opened during a run
- End: End of cycle confirmed with display and audible beep
- Remaining Time/Energy provides operation status report
- When the operation has been interrupted. The RESET button cancels the latest settings and START button automatically resumes the current operation.

Standard Size

Spectrolinker™ XL-1000 Series and Select™ XLE-Series

- Overall housing dimensions (W x H x D): 19.5" x 10.5" x 9", 49.5 x 26.7 x 22.9cm
- Effective inner chamber dimensions (W x H x D): 13.5" x 7.0" x 7.5", 34.3 x 17.8 x 19.1cm
- Door dimensions (W x H): 12.0" x 6.25", 30.5 x 15.9cm
- Viewing window dimensions (W x H): 6.0" x 2.5", 15.2 x 6.4cm for XL-series, 6.0" x 3.0", 15.2 x 7.6cm for XLE-series
- Net weight: 17.5 lb, 7.9kg
- Power: 120V-60Hz-2A, 230V-50Hz-2A, 100V-50/60Hz-2A

Model	Wavelength	Tubes
XL-1000, XLE-1000	254nm	(5) 8W SW, BLE-8T254
XL-1000A, XLE-1000A	365nm	(5) 8W LW, BLE-8T365
XL-1000B, XLE-1000B	312nm	(5) 8W MW, BLE-8T312

Large Size

Spectrolinker™ XL-1500 Series

- Overall housing dimensions (W x H x D): 24.0" x 10.5" x 14", 61.0 x 26.7 x 35.6cm
- Effective inner chamber dimensions (W x H x D): 18.25" x 6.25" x 12.5", 46.4 x 15.9 x 31.8cm
- Door dimensions (W x H): 16.0" x 6.25", 40.6 x 15.9cm
- Viewing window dimensions (W x H): 6.0" x 2.5", 15.2 x 6.4cm
- Net weight: 26 lb, 11.8kg
- Power: 120V-60Hz-3A, 230V-50Hz-3A, 100V-50/60Hz-3A

Model	Wavelength	Tubes
XL-1500	254nm	(6) 15W SW, BLE-1T155
XL-1500A	365nm	(6) 15W LW, BLE-1T151
XL-1500B	312nm	(6) 15W MW, BLE-1T158



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