

# X-Cite®

Fluorescence Illumination • In Control

## X-Cite XYLIS

### Brilliance Across the Spectrum

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Powerful LED fluorescence illumination for both compound and stereomicroscopes

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Broad spectral coverage for excitation from DAPI to Cy7

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Precise intensity control for sensitive specimens

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Convenient light guide or fiber delivery

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Low maintenance and mercury-free

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# Finally, a true arc lamp replacement for making the switch to LED.

The X-Cite® XYLIS LED light source provides intense output and a broad spectrum which rivals arc lamps. Finally, researchers are able to enjoy the benefits of LED technology without compromising on price, flexibility, or performance. No more hesitation, no more excuses.

## Brightness of an Arc Lamp

Specially selected LEDs built into the X-Cite XYLIS are powerful enough to replace arc lamps on both compound and stereomicroscopes. Compared to other LED products, specimen exposure and scanning times can be reduced, improving image quality and increasing productivity. X-Cite XYLIS' impressive output and low maintenance can help breathe new life into under-used microscopes and make better use of laboratory resources.

## Broad Spectral Coverage

X-Cite XYLIS is designed with more LEDs than previous X-Cite models, improving and extending spectral coverage for excitation from DAPI to Cy7. Spectral highlights include:

- DAPI – Two X-Cite XYLIS models are available to provide a choice of UV excitation. XT720S has a 365nm LED for a closer match to arc lamp output and compatibility with the narrow 365 DAPI filter sets which come standard in most microscopes. XT720L has a 385nm LED for use with sensitive specimens and 385 DAPI filter sets which are becoming increasingly common.
- TRITC/Tx Rd/mCherry – X-Cite XYLIS incorporates Excelitas' patented and award-winning LaserLED Hybrid Drive® technology, utilizing high efficiency lasers to excite a phosphor layer and generate light from 500nm to 600nm. The resulting intense, broad peak ensures plenty of power in this critical part of the spectrum.
- Cy7 – X-Cite XYLIS is the only broadband LED source to include a 735nm peak for Cy7 excitation. Labs no longer have to choose between the benefits of LEDs and keeping their spectral options open.

## Flexibility to Suit Application Needs

In addition to its powerful output and broad DAPI to Cy7 spectral range, X-Cite XYLIS offers the ultimate in flexibility – options are standard. Delivering light through a light guide alone or with a choice of more than a dozen microscope adaptors, X-Cite XYLIS can be installed on just about any new imaging system or used to retrofit the microscopes labs have depended on for years. Offered in two models with a choice of UV wavelengths (365nm or 385nm), labs may choose the one that is suitable for their preferred or existing DAPI filter sets. A "UV Off" mode permits the UV LED to be disabled when not required at all, protecting sensitive specimens and extending light guide lifetimes.

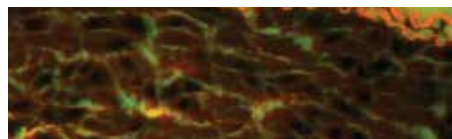
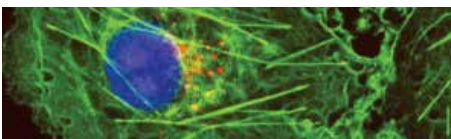
## Exceptional Control with Built-in Options

When it comes to control options, all are built-in to every X-Cite XYLIS - each system includes manual fingertip control with speedDIAL, hands-free operation with a foot pedal, as well as USB and TTL inputs for automated applications.

X-Cite XYLIS' ergonomic speedDIAL can be placed where it is most comfortable for individual users. Designed with a large speed-sensitive intensity dial that doubles as an ON/OFF button, controlling illumination is quick and intuitive. With a simple double tap on speedDIAL, users can quickly jump to a favorite intensity setting, as well as know the current intensity setting regardless of room lighting conditions via speedDIAL's backlit display.

Take full advantage of LED instant ON/OFF capability to limit photobleaching and phototoxicity with ultra-fast PC control or TTL triggering. X-Cite XYLIS can be driven by commercial imaging software, and an SDK is available for developing customized control solutions.

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## X-Cite Costs & Energy Savings

X-Cite XYLIS allows researchers to reduce the amount of hardware required by an imaging system - replace an arc lamp, separate shutter and neutral density filters all with a single device. All systems include high speed shuttering, 1% intensity adjustment, and multiple manual/automated control options. Enjoy the long-term benefits of using LED technology - long lifetimes, consistent output, lower maintenance, fewer consumables, reduced energy use, and zero mercury waste.

### Potential Cost and Energy Savings with LEDs

Table 1: Cost of Ownership (per 20,000 hours of "ON time")

	HBO	X-Cite 120Q	X-Cite XYLIS
Replacement Lamps	100	10	-
Mercury Content	1100 mg	200 mg	-
Lamp Costs	\$15,000	\$6,250	-
Replacement Light Guides	-	5	2
Light Guide Costs	-	\$1,975	\$790
Bulb Disposal (\$5/bulb) <sup>1</sup>	\$500	\$50	-
Maintenance Costs (bulb, \$20/hr) <sup>2</sup>	\$1,000	\$17	-
<b>TOTAL</b>	<b>\$16,500</b>	<b>\$8,292</b>	<b>\$790</b>
<b>Hourly Cost<sup>3</sup></b>	<b>\$0.82</b>	<b>\$0.41</b>	<b>\$0.04</b>
<b>Annual Cost<sup>4</sup></b>	<b>\$1,650</b>	<b>\$829</b>	<b>\$10</b>

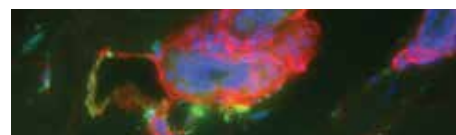
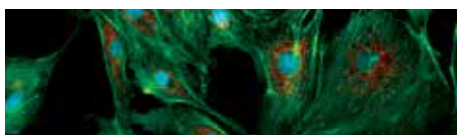
Table 2: Energy Consumption (per day)

	HBO	X-Cite 120Q	X-Cite XYLIS
ON Time <sup>3</sup>	8 Hours	8 Hours	1 Hour
Lamp Lifetime Used	4%	0.4%	0.004%
Energy Used <sup>5</sup>	1.24 kWh	1.92 kWh	0.39 kWh
Electricity Cost (per day) (\$0.15/kWh) <sup>6</sup>	\$0.19	\$0.29	\$0.06
<b>Electricity Cost (per year)<sup>4</sup></b>	<b>\$46.50</b>	<b>\$72.00</b>	<b>\$14.63</b>

#### Notes:

1. Mercury-Free Microscopy white paper [www.mygreenlab.org](http://www.mygreenlab.org).
2. Assumes 30 min to change/align HBO lamp, 5 min for X-Cite 120Q.
3. Assumes 8 hour day, 4x15 min imaging sessions. Arc lamps left on for the day and LEDs on continuously during each session.
4. Assumes a 5 day week x 50 weeks.
5. Calculated based on published technical specifications.
6. Typical rate. Actual rates will vary by region and/or time of day.

***With instant-on capability, X-Cite XYLIS is ready to use within seconds, giving researchers the freedom to set the schedule. Whether fluorescence is required occasionally, daily or continuously, X-Cite XYLIS will be ready to work.***

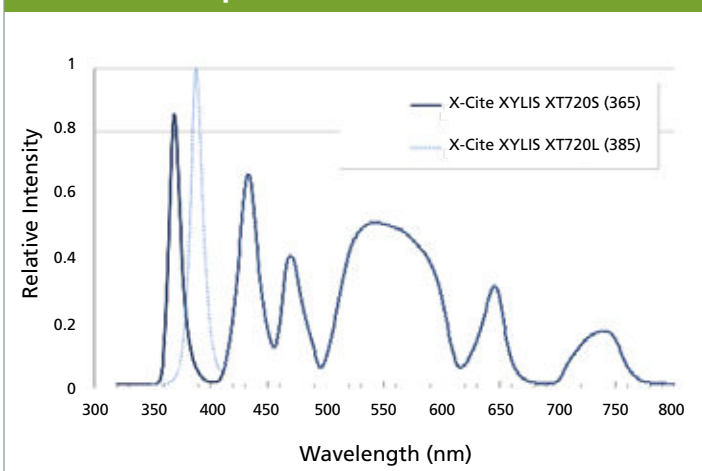


## TECHNICAL SPECIFICATIONS

	Model: XT720S	Model: XT720L
Wavelength Range	360-770nm	380-770nm
LED Peaks (nm)	365, 430, 475, 545, 650, 735	385, 430, 475, 545, 650, 735
Input Power Supply	Universal input 100-240VAC, 50/60Hz	
Current	3.9-1.6A	
LED ON/OFF Response Times	100 $\mu$ s TTL / 1 ms USB	
Control Options	speedDIAL ON/OFF - TTL compatible RS-232 commands (SDK available), USB Foot Pedal (optional)	
I/O Connections	BNC input USB (B-type) 3.5mm stereo plug	
Dimensions (W x H x D)	120mm x 260mm x 260mm (4.7" x 10.3" x 10.3")	
Weight	6.3 kg (13.9 lbs)	
Certifications	CE, RoHS	
Warranty	LEDs – 25,000 hours or 3 years All other X-Cite XYLIS components - 1 year, parts and labor (excluding LLG)	
Patents	X-Cite XYLIS incorporates technology protected by patent US#9,239,133	



## X-Cite XYLIS Spectra



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