

The Revolutionary New Light Source for Fluorescence Illumination

# X-Cite<sup>®</sup> *exacte*

X-Cite<sup>®</sup> *exacte* - the solution for quantitative and live cell imaging

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Closed-Loop Feedback ensures maximum stability

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Calibrated output via optional X-Cite<sup>®</sup> Optical Power Meter

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Iris provides intensity adjustment in 1% increments

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High speed internal shutter

With its intelligent design, long-life lamps and easy installation, the X-Cite<sup>®</sup> *exacte* means you don't have to compromise between performance and convenience.



LUMEN DYNAMICS  
PUTTING YOU IN CONTROL

X-Cite<sup>®</sup>  
—exacte

# The X-Cite<sup>®</sup> *exacte* System

Setting a new standard. **Stability. Control. Repeatability.**

The X-Cite<sup>®</sup> *exacte* has the convenience of pre-aligned, long-life lamps and easy installation combined with innovative functions in the newest generation of mercury arc fluorescence illuminators.

## STABILITY YOU CAN COUNT ON

Using a DC-powered lamp coupled with proprietary Closed-Loop Feedback (CLF) technology, the X-Cite<sup>®</sup> *exacte* maintains constant power and ensures ultra-stable illumination. The X-Cite<sup>®</sup> *exacte* is ideal for long term time-lapse and comparative imaging, remaining consistent whether experiments last for milliseconds or days.

## CALIBRATED OUTPUT FOR ULTIMATE REPEATABILITY

The X-Cite<sup>®</sup> *exacte* can be calibrated using the X-Cite<sup>®</sup> Optical Power Meter, an optional accessory. Ensure truly repeatable experiments by taking the variability out of illumination intensity.

## IDEAL FOR LIVE CELL IMAGING

Equipped with an iris to provide adjustment of light intensity in steps as small as 1% from 0-100% the X-Cite<sup>®</sup> *exacte* optimizes specimen illumination. This provides the flexibility and control of intensity attenuation required where photobleaching is a concern.

## HIGH SPEED INTERNAL SHUTTER

The X-Cite<sup>®</sup> *exacte* is equipped with a high-speed internal shutter activated by push-button, foot pedal, RS-232 commands or TTL, eliminating the need to purchase additional hardware for high-speed applications.

The rapid response time of less than 6ms\* for time critical exposures protects delicate specimens.



A custom graphical user-interface (GUI) enables computer control of all X-Cite<sup>®</sup> *exacte* functions, logs events and records and displays real-time stability data. Ideal for verifying intensity stability during automated or long term imaging experiments.



Optical Power Meter XR2100 & XP750 optional accessories

### DESIGNED WITH SAFETY IN MIND

The X-Cite® *exacte* has safety designed into all aspects of its operation: Interlock switches and a light guide detection system prevent accidental exposure to UV and intense visible light. Intelli-Lamp® monitors the system temperature to prevent overheating.

### THE X-CITE® ADVANTAGE

All of the convenient and cost-saving features that made the original X-Cite® a leader in fluorescence illumination are also designed into the X-Cite® *exacte*. The pre-aligned Intelli-Lamp® means easy set-up, and a 2000 hour lamp life guarantee means low operating costs. The X-Cite® lamp provides superior excitation for a wide range of fluorophores across the entire spectrum. A variety of specially engineered adaptors ensures compatibility with microscopes from all major manufacturers.

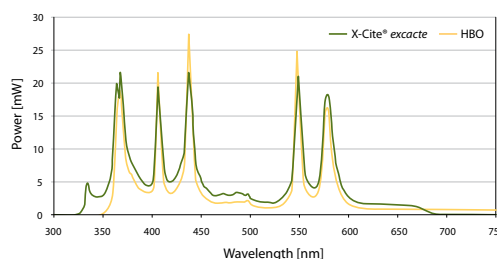
The X-Cite® *exacte* gives you convenience and control never before available. Engineered specifically to let you focus your energy where it belongs – on the best possible results.

For superior convenience and control, insist on X-Cite®

Our work relies on accurate quantitative measurements of fluorescence intensities in cells over the duration of an experiment which can be a few hours or multiple weeks. The *exacte* provides both the short-term stability with the Closed-Loop Feedback and long-term stability with the calibrated light output. The *exacte* has greatly enhanced our capability to do quantitative fluorescence imaging work.

Damir Sudar, *Staff Scientist*  
Lawrence Berkeley Laboratory, Berkeley CA

### Spectral Comparison

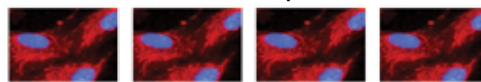


### The Benefit of Closed-Loop Feedback

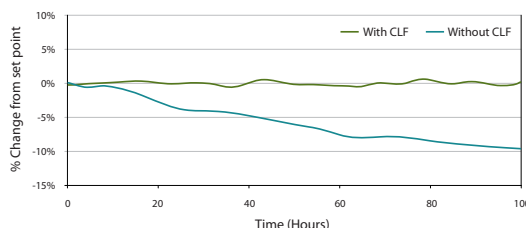
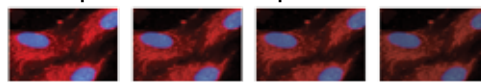
X-Cite® *exacte* uses a Closed-Loop Feedback signal to monitor and stabilize intensity. As the lamp ages, the iris position is automatically adjusted to maintain intensity at the original set point.

Simulated Degradation

#### X-Cite® *exacte* with Closed-Loop Feedback:



#### DC Lamp without Closed-Loop Feedback:



FEATURES	BENEFITS
DC lamp with Closed-Loop Feedback	Short and long-term intensity stability
Calibration via optional Optical Power Meter	Provides output in watts for consistent illumination and empirical repeatability
Adjustable Iris with 1% steps	Intensity control limits photobleaching
Internal High Speed Shutter	Flexibility in configuring imaging systems for different applications
Liquid Light Guide	Excellent illumination uniformity, no heat transferred to microscope
Automatic Light Guide Detection	Ensures proper/complete insertion of light guide to optimize performance and lifetime
Pre-aligned, 2000 hour lamp	Easy lamp replacement with no alignment required, lower running costs
Intelli-Lamp® Technology	Maintains optimum lamp temperature, tracks lamp hours
Computer Control & GUI	Enables computer-driven applications and stability data exporting

SPECIFICATIONS	
Includes	Lamp module, liquid light guide with adaptor, software CD, foot pedal, USB cable, grounded and shielded power cord, user guide, quick-start guide
Lamp	200W Mercury Vapor Short Arc, DC
Lamp Life	2000 hours guaranteed; 2500 hours typical
Adaptors	Compatible with microscopes from all major manufacturers
Filter	Bandpass, 340-675nm
Power Supply	High efficiency, switch mode, line isolated 100-120VAC / 200-240VAC, 50/60Hz
Warm-up Period	4-minutes (typical)
Connectivity	RS-232 control via USB port; PC and Mac control of lamp, iris, shutter; ready for integration in automated system
Drivers	Base commands same as X-Cite® 120PC; Build onto existing driver scripts to control X-Cite® <i>exacte</i> .
Panel Controls	Power on/off, Display Mode Selection, Intensity up/down adjustment, Closed-Loop Feedback on/off, Shutter open/close
Panel Display	Accumulated lamp hours, intensity setting, status messages
Panel Status Indicators	Lamp on, shutter open, display mode, calibration, light guide insertion, Closed-Loop Feedback
Dimensions (LxWxH)	13.5" x 7" x 8" 34cm x 18cm x 20cm
Weight	10.8lbs / 4.9kg
Certifications	CE marked, certified to IEC, Canadian and US Standards
Warranty	1 year (excluding lamp and light guide)
Patents	X-Cite® <i>exacte</i> incorporates technology protected by the following patents: US# 5,521,392; US# 6,333,602; US# 6,437,861; US# 6,847,170; US# 7,335,901



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Hg-LAMP CONTAINS MERCURY, Manage in Accord with Disposal Laws, see [www.lamprecycle.org](http://www.lamprecycle.org) or +1 800 668-8752

Lumen Dynamics Group Inc. is certified under the globally recognized ISO 9001 Quality Management System and the ISO 14001 Environmental Management System. Our global customers can trust that Lumen Dynamics strives to be the best possible supplier in all aspects of our business.

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