

Flash Photolysis System

Variable Charge Capacitance

The Cairn Flash Photolysis System features continuously variable voltage, and a switchable bank of capacitors for generating high-energy pulses for the photolytic release of caged compounds. Using the latest capacitor technology, and our proprietary igniter design, incorporated into the lamp housing, the Cairn system is compact, flexible and causes relatively little electrical interference. By allowing the user to select both capacitance and voltage; the intensity, duration, and recharge rate of flashes can be controlled. The control unit can be supplied with a range of lamp housings for direct coupling, or coupling via a liquid light guide.

Key Benefits

- Compact size
- Variable charge capacitance
- Continuously variable charge voltage
- Proprietary balanced igniter circuit for high flash current and reduced interference risk
- Proprietary high pressure arc lamp design
- Reflector and condenser lamp housings
- Optically isolated trigger input and output connections
- Compatible with Cairn fluorescence and electrophysiological equipment
- Light guide couplings to all popular fluorescence microscopes

Specification

Charge Capacitance Switchable from 20uF to 4000uF

Charge voltage Continuously variable up to 400V

Peak output 320 Joules @ 4000uF and 400V

Flash duration Less than 1msec typically

Recharge rate 0.3 sec for CV (uF x V) up to 80000

Output connection. Various microscope couplings available for 2,3 and 5mm light guides

Mains requirement 90-250 Volts, 50-60 Hz

Dimensions (WxHxD) System box 305x90x280

Condenser housing 170x60x120

Classic reflector housing 100x100x185

High intensity reflector housing 240x210x140

HIGH ENERGY LIGHT FOR THE
release of caged
compounds



Flash Photolysis System

Localised or Whole Field Illumination

Flash System Couplings



Ultra high point intensity lamp housing

The ultra high point intensity lamp house was originally developed for use with our Optoscan monochromator and is specifically designed for maximising point intensity. For light critical applications where direct coupling is not possible we would recommend this version; especially when using the smaller sizes of light guide.



Classic lamp house

Optically efficient lamp house for focussing the energy from an arc lamp into a liquid light guide (usually via a supplementary silica lens). This lamp house produces sufficient intensity for most applications



Episcopic Microscope Coupling For Olympus IX

A full range of microscope couplings are available to order. These can be configured for direct coupling of the flash light or to accept the combined flash / fluorescence output of the splitter box



Combined flash / fluorescence coupling

Ultraviolet flash light for photolysis can be combined with fluorescence excitation for simultaneous coupling to a microscope episcopic illumination port. The combiner cube can be fitted with a dichroic mirror to split up the appropriate wavelengths or a thin glass cover slip if the fluorescence is sufficiently bright to only require a small percentage of the total light.

Options

- P115/OPT/000 Flash photolysis system with Optosource style lamphouse
- P120/CAI/000 Light source output coupling for Cairn lamphouse (excl. iris diaphragm)
- P125/F11/025 Optical adapter for light guide coupling (1 fixed & 1 sliding filter holder)
- P135/015/003UV transmitting liquid light guide (1.5 metre long, 3mm core diameter)
- P802/OFL/000 Xenon arc flash lamp (proprietary high pressure version)
- P155/NT2/000 Basic epifluorescence coupling