ABET TECHNOLOGIES

Function Focused Innovation™

Arc Lamp Light Sources

Innovative Light Source

150 W Xe arc lamp

Fast F/1 condenser

Patent Pending Design

Unlimited Expansion Possibilities

OEM Ready

LS-150-Xe with some of the available accessories and the OEM module

Introducing LS-150-Xe: An innovative and highly flexible 150 W Xe arc lamp light source.

Innovative

A vibration decoupled cooling design assures illumination stability while keeping critical system components cool. All the system controls are located together for easy setup. Once aligned, close the controls door and this instrument looks like what it was designed to be: a “set it and forget it” tool. Lamp replacement is a simple procedure with no tools required. Simply swing the hinged arc lamp mount out of the housing and replace the lamp without getting your finger close to the internal optical components.

The self-contained optics bench design of the LS makes OEM adaptations a breeze. Just drop it into your instrument and save on the NRE costs.

Adaptable

Abet Technologies offers a number of accessories to adapt this light source to your needs. However, if you would like to use components offered by other manufacturers go right ahead and mix and match. The output face of LS sources allows easy mounting of 1” optics cells. Inexpensive adapters for C-mount, Oriel flanging system, and assorted Thor Labs mounts allow you to use accessories from most leading suppliers like Abet, Thor, Linos, Edmund, and Newport-Oriel. Of course, we would like you to purchase all your accessories from us. However, if you need or already have accessories from other manufacturers we make it easy to adapt those to this light source.

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Compact, Integrated, Functional, Stable (patent pending design)

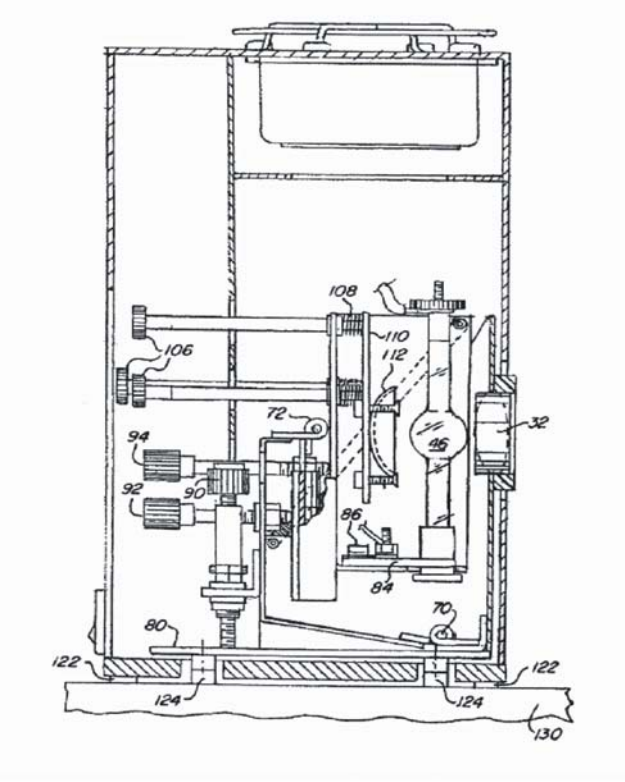
The entire source, power supply, lamp, and optical compartment are housed in an extremely compact enclosure, 9 X 6 X 11 inches. The unit's base allows mounting on inch or metric spaced optical tables with the optics axis centered over the hole pattern to allow for easy integration with the rest of your setup.

Having the complete source in a single enclosure assures that any EMI generated during ignition is contained inside the housing. It also eliminates the need for costly shielded cables and connectors.

A high stability option, that isolates the lamp and optical compartment from cooling fan vibration, is included with every source for those who require the ultimate in performance.

Optical System

The optical compartment contains a swing-out lamp mount (84 in the diagram below) making lamp replacement a simple, no tools required operation. The optical base 80 is normally secured to the system housing for convenience. For stability-critical applications the two get separated, see High Stability Option below.



All of the optical compartment adjustments are conveniently located on the rear of the source enclosure. These adjustments include:
- A focusing adjustment which translates lamp and reflector with respect to the F/1 condenser lens allowing output focus from beyond infinity to a point less than 150 mm in front of the enclosure
- Lateral adjustments allow fine centering of the output beam on the optical axis
- Adjusters for the optical output enhancing rear reflector used to collect radiation off the back to the lamp and directing it through the optical system

All the focusing, centering and rear reflector controls are smooth, positive and precise allowing maximum control in delivering the output beam to the sample or outboard accessories.

Electronics Compartment

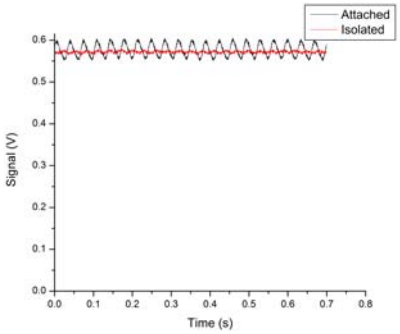
The electronics compartment houses the power supply, a low noise and vibration cooling fan, an Elapsed Time Meter and system interlocks.

Interlocks

Safety interlocks will shut the entire system down in the case of a fan failure that could cause a system overheat. Door interlocks shut system down to prevent hazardous situations if the door is opened during system operation.

High Stability Option

A high stability option, that is simple to install in the field, is included with every system to maximize the stability of light delivery to small targets. When implemented, this option isolates the optical compartment from small amounts of vibration that might be introduced by the system cooling fan and can produce a significant stability improvement, as shown below.



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Accessories

Accessories are easily accommodated with a flexible design front plate and a number of adapters to industry standard interfaces. The face plate accommodates any 1.035-40 thread optics cells and 30 mm cage system components directly. C-mount and Newport-Oriel flange based components are accommodated with inexpensive adapters.

The **20052 F/1 Fused Silica focusing condenser**, 1" diameter, screws right into the output face or into the 20065 filter wheel below and produces a 1 to 1 image of the lamp arc. The **20053F/2 Fused Silica focusing condenser**, 1" diameter, screws right into the output face or into the 20065 filter wheel below and produces a 2 to 1 image of the lamp arc. Please contact us for other lens selections.

The **20065 manual filter wheel** has six positions for 1" diameter (25 mm), up to 3 mm thick optics. Use the 1" lens cells to accommodate thicker optics. The wheel can be used like a microscope turret, with a selection of focusing condensers loaded, to produce different size and irradiance level spots.

The **20034** series of **45° reflector mounts** allow you to turn the beam by 90 degrees, without any vignetting. Wavelength separation can be obtained with other models, equipped with dichroic reflectors, as needed. The 45° reflector mounts output faces are also equipped with 4-40 tapped holes for a 30 mm spaced cage system. They can be directly attached to each other for additional filtering.

The **20032 adapter** provides a female 1.5 inch series flange for adapting Newport-Oriel optical components and accessories.

The **20033 adapter** provides a C-mount thread for any components based on that mounting standard.

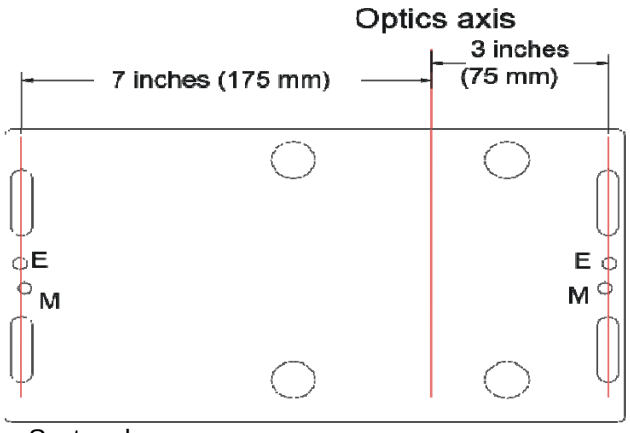
Specifications

Electrical

100 / 240 V, 50-60 Hz Universal Input power supply

Dimensions

Source 9" W x 6" D x 11" H (230x150x280 mm)
Base 10.5" x 6" (267 x 153 mm)
Shipping weight approximately 17 lbs (8 kg)



System base

The unit's base allows mounting on inch or metric spaced optical tables and accommodates ¼-20 or M6 retaining screws in the side slots.
Tapped holes, ¼-20 (E) and M6 (M), are provided for elevated mounting of the system.
The optical axis is located approximately 4" (100 mm) above the support surface.

Optomechanical

1" **diameter Fused Silica F/1 condenser included**
1% RMS or better light ripple
Output face accepts any 1.035-40 thread optics cells
Output face equipped with 4-40 tapped holes for a 30 mm spaced, 6 mm rod cage system
A selection of 150 W Xe arc lamps is offered

LS-150-Xe light source with a 30 mm Thor Labs cage system cube

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Accessories

20065 Manual Filter Wheel
A six-position manual filter wheel for 1inch diameter (25 mm) up to 3 mm thick optics. Use our 20043 or 20044 1" cells to accommodate thicker optics.

20043 1 inch Optics Mounting Cell
1.035-40 threaded 1inch cell used to mount optics up to 7.5 mm thick to the output face of the LS-150 source of or the 20065 filter wheel.

20044 1 inch Optics Mounting Cell
1.035-40 threaded 1inch cell used to mount optics up to 12.7 mm thick to the output face of the LS-150 source of or the 20065 filter wheel.

20034 - 20038 Reflector Mounts
These mounts allow a beam to be turned by 90 degrees, without any vignetting, with a mirror or to provide wavelength separation when equipped with a dichroic reflector.

20087 – 20093 Fiber Mounting Adapter
For coupling SMA and fiber bundles. These adapters mount directly to the output face of the LS-150 light source and include appropriate optics to focus the output beam of the LS onto the face of the single fiber or fiber bundle.

20052 and 20053 Secondary Focusing Condensers
These condensers are 1 inch diameter UV grade fused silica lenses mounted in a cell that screws right into the output face of our LS source or into the 20065 filter wheel.

Ordering Information:

LS-150-Xe	Light Source for 150 W Xe lamp (Order lamp separately, see below)	$3,265
13014	XBO-150W/1 ozone free lamp	$247
13015	XBO-150W/4 high UV lamp	$425
13016	UXL-150-MO lamp	$247
13017	UXL-150-SMO long life lamp	$335
20032	Adapter to Oriel 1.5 in series flange	$72
20033	Adapter C-Mount	$25
20034	45°, no optics	$188
20035	45°mount, UV280-400 nm	$425
20036	45° mount, UV350-450 nm	$325
20037	45° mount, Full reflector	$325
20038	45° mount, VIS 420-680 nm	$325
20043	Optics Mounting Cell	$72
20044	Optics Mounting Cell	$72
20052	F/1 focusing condenser	$220
20053	F/2 focusing condenser	$135
20065	Filter wheel, six position	$235
20087	SMA Fiber Adapter, F/1	$375
20088	SMA Fiber Adapter, F/2	$375
20092	11 mm Ferrule Fiber Adapter, F/1	$375
20093	11 mm Ferrule Fiber Adapter, F/2	$375

LS-150-Xe light source with FW-LS filter wheel with two condenser lenses loaded

OEM options

A compact OEM optical module, 4.5" x 5.5" x 7" (115 x 140 x 178 mm) is available – please contact Abet Technologies with your light source requirements.

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