Arc light sources

50 - 150 W arc light source

- *Designed for arc lamps*
- *Convection cooling*
- *Precision external lamp adjustments*
- *Choice of different UV-NIR condensing optics for collimated beam*
- *Supports wide range of accessories*

Modular construction

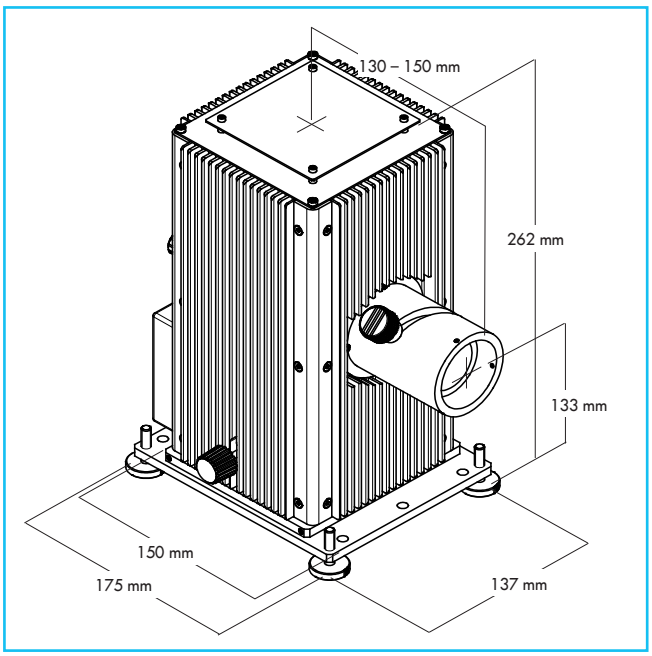
This housing was especially designed for arc lamps, but it operates other sources as well:

- Xe and Hg arc lamps up to 150 W
- Halogen lamps up to 150 W
- 30 W deuterium lamps

Switching within the same lamp category requires only a new lamp adapter to position the lamp in the center of the housing.

Switching from one category to another, for example from arc lamps to halogen lamps, requires a simple change of interface to meet the different electrical requirements of the different lamp types. Arc lamps need two high-voltage connections. Deuterium lamps need three connectors. All interfaces include cables to connect to our power supplies.

Our lamp housings have height-adjustable feet which allow adjusting the optical axis by 15 mm. You can take the feet off and hard mount the housing to a bench, rail or optical table with the optic's axis centered over the hole pattern to allow for easy integration with the rest of your setup. The height of the optical axis is then 133 mm.



Convection cooling

Unlike fan cooled housings, this housing uses natural convection cooling. This type of cooling is acoustically quiet and vibration free, which results in the most stable lamp output.

Openings in the bottom and top of the housing allow air to enter and circulate through the housing without excessive light leakage. The ribbed exterior improves the cooling efficiency.

Condensing optic

We offer a variety of different condensers with 35 mm aperture. They differ in:

- Lens material and therefore usable spectral range
- F/number and therefore beam quality and collection/collimation efficiency

The condensers are intended for collimated beams, but can also be positioned for compensating focal length change due to dispersion and to produce a more diverging or converging beam.

For best uniformity use a slightly diverging beam. For best quality images use the condenser as a collimator and a secondary focusing lens.

The condenser lenses are made of high-quality UV quartz for transmissions down to 200 nm, or optical borosilicate glass (BK7; B270) for applications, where an output below 360 nm is not required.

For the transmittance of these materials go to www.lot-qd.com/lightsources ("Basics").

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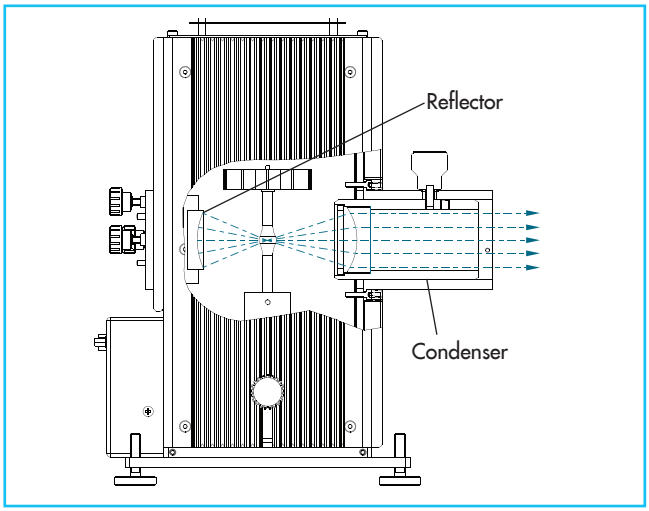

More light

The optional reflector assembly collects additional radiation from the source, thus increasing the output by up to 50 % for arc lamps. You also get significantly more output with halogen lamps. The reflectors are not for use with deuterium lamps. Each reflector assembly includes a wideband $AlMgF_2$ coated mirror, usable from the UV to the IR.
Control knobs provide x, y, and z adjustments for tilt and focus.

Lamp adjustment

The housing has precise external lamp adjusters. They let you place the arc where you want it. This is important for simplifying fiber and slit illumination. In many applications, this eliminates the need for readjusting any optics located in the beam path outside the housing.

A word on safety

When using arc lamps you have to operate the housing only with a condenser or window because of possible lamp burst! Even with these low powered sources, UV radiation and ozone are a concern. The easiest solution to the ozone problem is to use an ozone-free arc lamp if you do not need output below 260 nm. If that is not an option, vent the ozone. Take appropriate UV safety precautions; enclose the beam or wear UV protective eyewear and gloves.
For more about UV safety go to "Ultraviolet safety considerations" on www.lot-qd.com/lightsources ("Basics").

Ordering information

To build a complete light source you will need:
Lamp housing, condensing optics, lamp with appropriate adapter, electrical interface, cable and power supply. As an option we suggest the rear reflector for more output.

Housing and optics	
LSH102	Housing
LSC115	UV quartz condenser; F/1.3; 35 mm aperture
LSC110	UV quartz condenser; F/1.0; 35 mm aperture
LSC114	IR quartz condenser; F/1.3; 35 mm aperture
LSC111	Glass condenser; F/1.0; 35 mm aperture
LSC116	Glass condenser; F/1.3; 35 mm aperture
LSC121	Rear reflector assembly

For transmittance/reflectance curves go to "Transmittance of optical materials" or "Reflectance and refractive index of optical materials" on www.lot-qd.com/lightsources ("Basics").

Lamps and adapters		
	Arc lamps	**Required adapter**
LSB610	100 W Hg	**LSA121**
LSB710	100 W Hg(Xe)	**LSA122**
LSB711	150 W Hg(Xe)	**LSA123**
LSB510	75 W Xe	**LSA122**
LSB511	75 W Xe OF	**LSA122**
LSB512	100 W Xe OF	**LSA122**
LSB520	150 W Xe	**LSA123**
LSB523	150 W Xe OF	**LSA123**
LSB522	150 W Xe UV	**LSA123**

For lamp specifications go to "DC short arc lamps, specifications" on www.lot-qd.com/lightsources ("Arc light sources").

Power supplies and interfaces	
LSN150/2	Power supply for 50 - 150 W arc lamps
LSN151	Power supply for 75 W Xe lamps
LSN161	Power supply for 100 W Hg lamps (requires LSE142 Interface)
LSE140	Interface for arc lamps
LSE142	Interface for 100 W Hg lamps
LSE143	Cable Xe
LSE144	Cable Hg

For specifications of power supplies go to "Arc lamp power supplies, specifications" on www.lot-qd.com/lightsources ("Arc light sources").