

Monochromatic Light Sources

Standard Monochromatic Light Source Packages

Introduction

Configuring a complete monochromatic light source with its various options can be a difficult task. Questions to be answered are:

- Which source type (arc or halogen)?
- Which condenser type (glass or quartz) and which F-number?
- Which monochromator (focal length 150 mm or 300 mm)?
- Which gratings are necessary to cover the desired wavelength range?
- Which slit assembly for the best repeatability or flexibility?
- What components are needed to build a complete (ready to operate) source?
- Are accessories required?

LOT with almost 40 years in light source business built an extensive source of technical know-how to answer these questions and one of the broadest selection of components to provide you with an individual solution for your specific application.

Standard monochromatic light source packages

For your ordering convenience we are listing also complete "standard monochromatic light source packages" with just one part number.

All these systems include:

- Light source optimized for slit illumination
- Monochromator
- Order sorting filter wheel
- Quartz focusing lens
- Control software
- All cables and hardware needed to start
- Components mounted on a common base plate

But **NO**

- Lamp
- Slits
- Gratings (for the 150mm Monochromator)

These need to be ordered separately.

For specifications of lamps and monochromators go to www.lot-oriel.com/lightsources

This kind of simplification naturally has its limitations. Here we have to give up some of the flexibility you have when configuring a monochromatic light source based on our modular components. We would therefore like you to understand the below listed configurations as simply a summary of our most popular monochromatic light sources. As always, we will be happy to receive your call, talk about your application and help you make your final selection of the best source with the necessary accessories.



sample configuration with accessories

Features of the Monochromators

- fully automated
- USB 2.0 interface
- 200 nm – 2200 nm (grating dependent)
- Omni control Software
- Lab View VI's and Linux driver

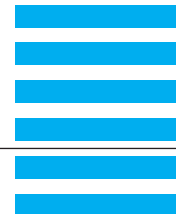
Features of Xenon Arc Lamps

- high UV and VIS output
- continuous spectrum from 200 to 700 nm
- produce high irradiance on small targets
- small, high radiance arc

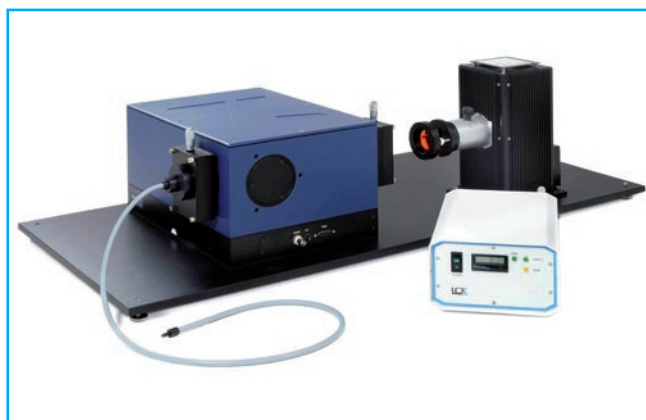


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75/150 W Xe light source with 150 mm focal length monochromator



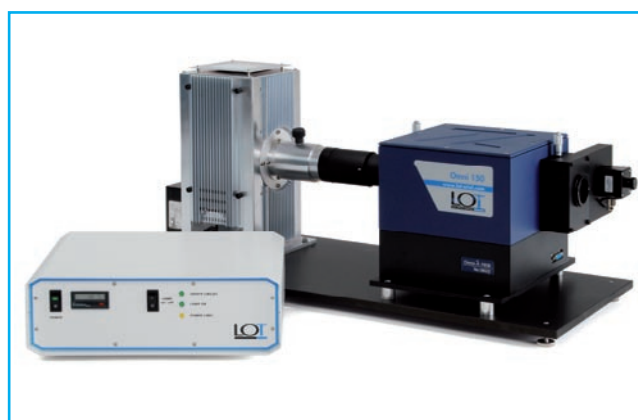
sample configuration with accessories

- highest radiance
- smallest spot size
- deep UV version available (150 W lamp)
- F/1,3 UV condenser
- rear reflector
- LSH102 lamp housing, LSN150 power supply
- MSH3101, 150 mm focal length monochromator
- UV focusing lens
- computer controlled filter wheel MSZ3122 with appropriate longpass filters
- completely aligned on common baseplate
- supports wide range of accessories

Ordering information

MLS-75-150	75 W Xe light source with 150 mm monochromator
MLS-150-150	150 W Xe light source with 150 mm monochromator
Without lamp, slits and gratings. Please select from below	
Lamps	
LSB510	75 W Xe
LSB511	75 W Xe OF
LSB520	150 W Xe
LSB521	150 W Xe OF
LSB522	150 W Xe deep UV
Slits	
MLS-S01	set of 2 variable slit assemblies
MLS-S02	set of 2 fixed slit assemblies
Gratings	
MLS-G01	UV-VIS grating set 200 – 1000 nm 1200 l/300 blz, 1200 l/mm 500 blz
MLS-G02	VIS-NIR grating set 400 – 2200 nm 1200 l/mm 500 blz, 600 l/mm 1250 blz

300 W Xe light source with 150 mm focal length monochromator



300 W Xe light source with 150 mm focal length monochromator

- *high radiance*
- small spot size
- F/1,3 UV condenser
- rear reflector
- LSH302 lamp housing, LSN252 power supply
- MSH3101, 150 mm focal length monochromator
- UV focusing lens
- computer controlled filter wheel MSZ3122 with appropriate longpass filters
- completely aligned on common baseplate
- supports wide range of accessories

Ordering information

MLS-300-150	300 W Xe light source with 150 mm monochromator
Without lamp, slits and gratings. Please select from below	
Lamps	
LSB530	300 W Xe OF
LSB531	300 W Xe
Slits	
MLS-S01	set of 2 variable slit assemblies
MLS-S02	set of 2 fixed slit assemblies
Gratings	
MLS-G01	UV-VIS grating set 200 – 1000 nm 1200 l/300 blz, 1200 l/mm 500 blz
MLS-G02	VIS-NIR grating set 400 – 2200 nm 1200 l/mm 500 blz, 600 l/mm 1250 blz

Monochromatic Light Sources

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300 W Xe light source with 300 mm focal length monochromator



sample configuration with accessories

- high radiance
- small spot size
- F/1,3 UV condenser
- rear reflector
- LSH302 lamp housing, LSN252 power supply
- MSH3201, 300 mm focal length monochromator
- 180° optical path
- UV focusing lens
- computer controlled filter wheel MSZ3122 with appropriate longpass filters
- completely aligned on common baseplate
- supports wide range of accessories

Ordering information

MLS-300-300	300 W Xe light source with 300 mm monochromator Wavelength range from 200 – 2200 nm incl. 3 gratings 1200 l/mm 300 blz, 1200 l/mm 500 blz and 600 l/mm 1000 blz
Without lamp and slits. Please select from below	
Lamps	
LSB530	300 W Xe OF
LSB531	300 W Xe
Slits	
MLS-S01	set of 2 variable slit assemblies
MLS-S02	set of 2 fixed slit assemblies
MLS-S03	set of 2 motorized slits inclusive driver

For specifications of lamps and monochromators go to www.lot-oriel.com/lightsources

450/1000 W Xe light source with 300 mm focal length monochromator

- high radiance
- small spot size
- deep UV lamp available (450 W lamp)
- F/1,3 UV condenser
- rear reflector
- LSH601 lamp housing, LSN 555 power supply
- MSH3201, 300 mm focal length monochromator
- 180° optical path
- UV focusing lens
- computer controlled filter wheel MSZ3122 with appropriate longpass filters
- completely aligned on common baseplate
- supports wide range of accessories

Ordering information

MLS-450-300	450 W Xe light source with 300 mm monochromator Wavelength range from 200 – 2200 nm incl. 3 gratings 1200 l/mm 300 blz, 1200 l/mm 500 blz and 600 l/mm 1000 blz
MLS-1000-300	1000 W Xe light source with 300 mm monochromator Wavelength range from 200 – 2200 nm incl. 3 gratings 1200 l/mm 300 blz, 1200 l/mm 500 blz and 600 l/mm 1000 blz
Without lamp and slits. Please select from below	
Lamps	
LSB540	450 W Xe
LSB541	450 W Xe deep UV
LSB542	450 W Xe OF
LSB550	1000 W Xe
LSB551	1000 W Xe OF
Slits	
MLS-S01	set of 2 variable slit assemblies
MLS-S02	set of 2 fixed slit assemblies
MLS-S03	set of 2 motorized slits inclusive driver

By the way

If your detector is sensitive to shorter wavelength than those diffracted in the first order, you'll need to block them before they hit the detector. Therefore each set contains our filterwheel MSZ3122. Due to the power of 300 W -1000 W Xenon lamps this filterwheel can be mounted at the exit port of the monochromator only. If mounting at the entrance port is required, please choose additional water filter. Note that this limits the usable waverange in the IR to max. 900 nm.

Monochromatic Light Sources

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Features of the Halogen Lamps

- excellent stability
- continuous spectrum from 300 – 2500 nm
- inexpensive to operate
- easy handling



Features of the Monochromators

- fully automated
- USB 2.0 interface
- 200 nm – 2200 nm (grating dependent)
- Omni control Software
- Lab View VI's and Linux driver

50/100/150 W Halogen light source with 150 mm focal length monochromator

- good compromise of output intensity and filament size
- F/1,3 UV condenser
- LSH102 housing, LSN111 power supply
- MSH3101, 150mm focal length monochromator
- UV focusing lens
- computer controlled filter wheel MSZ3122 with appropriate longpass filters
- completely aligned on common baseplate
- supports wide range of accessories

Ordering information

MLS-H150	50/100/150 W Halogen light source with 150 mm focal length monochromator
Without lamp, slits and gratings. Please select from below	
Lamps	
LSB114/5	50 W halogen lamp
LSB116/5	100 W halogen lamp, long life
LSB117/5	100 W halogen lamp
LSB121/5	150 W halogen lamp
Slits	
MLS-S01	set of 2 variable slit assemblies
MLS-S02	set of 2 fixed slit assemblies
Gratings	
MLS-G01	UV-VIS grating set 200 – 1000 nm 1200 l/300 blz, 1200 l/mm 500 blz
MLS-G02	VIS-NIR grating set 400 – 2200 nm 1200 l/mm 500 blz, 600 l/mm 1250 blz

For specifications of lamps and monochromators go to www.lot-orient.com/lightsources

300/400 W Halogen light source with 300 mm focal length monochromator

- high level VIS-NIR output
- F/1,3 UV condenser
- LSH302 housing, LSN6016 power supply
- MSH3201, 300 mm focal length monochromator
- 180° optical path
- UV focusing lens
- Computer controlled filter wheel MSZ-3122 with appropriate longpass filters
- completely aligned on common baseplate
- supports wide range of accessories

Ordering information

MLS-H300	300/400 W Halogen light source with 300 mm monochromator Wavelength range from 200 – 2200 nm incl. 3 gratings 1200 l/mm 300 blz, 1200 l/mm 500 blz and 600 l/mm 1000 blz
Without lamp and slits. Please select from below	
Lamps	
LSB124/2	300 W halogen lamp
LSB125/2	400 W halogen lamp
Slits	
MLS-S01	set of 2 variable slit assemblies
MLS-S02	set of 2 fixed slit assemblies
MLS-S03	set of 2 motorized slits inclusive driver

