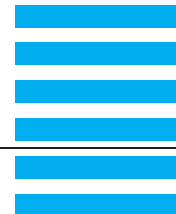
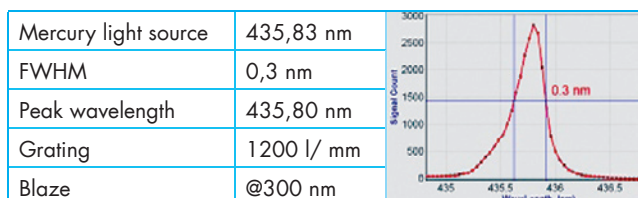


# Monochromator/Spectrograph Omni-λ 150



Omni-λ150 Monochromator

- Focal length: 150 mm
- Fully automated
- USB 2.0 interface
- 180 nm – 23 μm (grating dependent)
- Lab View VI's and Linux driver



The Omni-λ 150 is a high quality direct drive scanning monochromator system that is designed with an interchangeable dual grating turret. The short focal length makes it ideal for applications that generally do not need high spectral resolution such as: illuminators, light filtration, low resolution spectral analysis, etc. The compact rugged design ensures high performance operation with low stray light and excellent light gathering capability. OMNICONTRON software permits easy to use computer control through USB 2.0 interface. The Lab View VI's make it ideal for integration into a wide range of spectroscopy systems for e.g. absorption transmission or fluorescence measurements, or as a monochromatic illuminator system when combined with one of our light sources.

## Optical configuration

The Omni-λ 150 uses an asymmetrical in-plane Czerny-Turner configuration. The F-number is f/4.2. The resolution with a 1200 l/mm grating is 0.4 nm@500 nm. Entrance and exit slits are on the same optical axis which makes it easy to align on an optical bench or rail. The Omni-λ 150 can also be operated as a spectrograph. Mounting adapters for most commercial cameras are available.

## Motorized wavelength drive

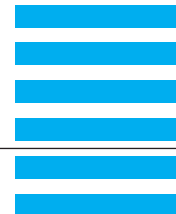
The Omni-λ 150 uses a stepping motor drive with a repeatability of 0.1 nm to change wavelength and to switch gratings. This direct driving mechanism keeps complexity and costs to a minimum. With the included software OMNICONTRON the system is able to perform automated scans with grating and filter change. The min. step size is 0.01 nm.

## Instrument control and software

The Omni-λ 150 is connected to the computer via an USB 2.0 connection. OMNICONTRON is a standalone program for users who only need to command the monochromator without integrating it with other instruments. For all others we supply 32 bit Lab View VI's and basic LINUX interfaces incl. source code. Furthermore a list of all device commands is in the manual for individual programming needs.

Specifications	
Focal length	150 mm
Aperture ratio	f/4.2
Resolution@500 nm	0.4 nm
Dispersion	5.4 nm/mm
Grating mount:	dual grating turret, interchangeable
Grating size:	32 mm x 32 mm
Accuracy (wavelength)	0.25 nm
Repeatability	0.1 nm
Drive step size:	0.01 nm
Focal plane size	25 mm (w) x 10 mm (h)
Standard slits:	0.01 - 3 mm, continuously adjustable
Slit height	4 mm
Optical axis height	134 mm ~ 164 mm
Size	190 mm (l) x 200 mm (w) x 158 mm (h)
Weight	5 kg
All specifications are obtainable with a 1200 l/mm grating and 10 μm slits at 546,1 nm.	

# Monochromator/Spectrograph Omni-λ 150



## Slit assemblies

The slit assembly uses a precision micrometer drive to adjust the width. It is continuously adjustable from 10 μm to 3 mm at a slit height of 4 mm. A motorized version is available also. All slits have a 35 mm series male flange which allows convenient interfacing to a wide range of accessories.

Slitwidth μm	Bandwidth nm
10	0.5
25	0.5
50	0.5
150	1
350	2
750	4
1000	5
2000	10
3000	15

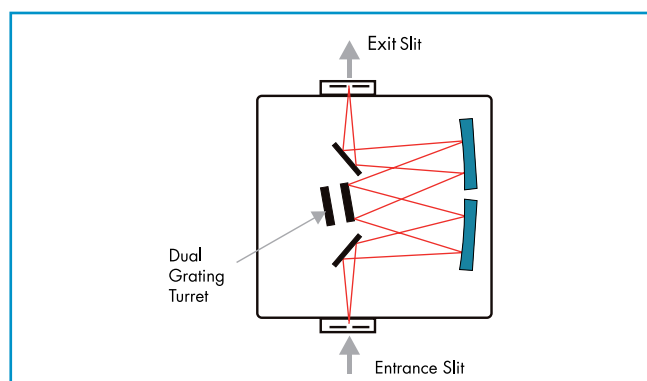
The optional multiple fixed slit assembly has 7 fixed slit positions ranging from 0.5 to 6 mm in width. Fixed slits are the best choice for reproducible bandwidth.

The table below shows typical bandwidth for a 1200 l/mm grating.

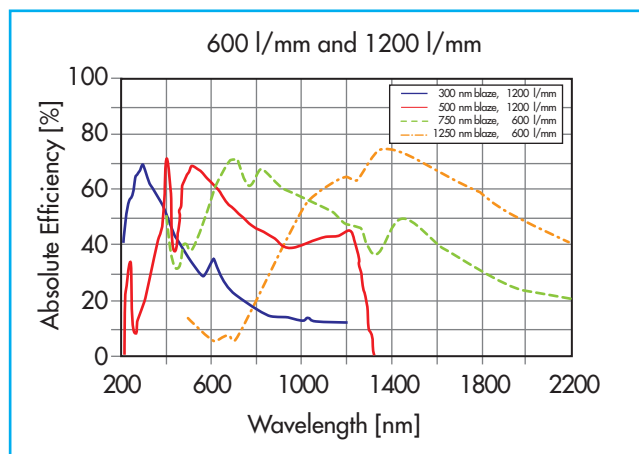
## Optional motorized filter wheel



A 6 position filter wheel is offered to hold order sorting and/or neutral density filters at the input of the Omni-λ150. The filter wheel is controlled by the OMNICONTRON software. It is equipped with 5 Schott glass filters with 50% T cut-on wavelength at 350, 550, 650, 800, 1100 nm.



Optical configuration Omni-λ150 Monochromator



Typical efficiency curves for 600 and 1200 line gratings, different blaze

### Ordering information Monochromator and Spectrograph

<b>MSH 3101</b>	Omni-λ150 Monochromator/Spectrograph, USB 2.0 interface, 180° configuration, OMNICONTRON Software packet, 32 bit Lab View VI's and Linux source code
<b>MSZ 3112</b>	Variable slit assembly, 10 μm – 3 mm, micrometer driven
<b>MSZ 3114</b>	Fixed slit assembly, 7 fixed slits: 0.5, 1, 2, 3, 4, 5, 6 mm manually changable
<b>MSZ 3122</b>	Motorized filter wheel with 5 Schott glass filters with 50% T cut-on wavelength at 350, 550, 650, 800, 1100 nm.

### Ordering information Gratings

	Line Spacing (l/mm)	Blaze Wavelength	Type
<b>MSG32-1800-H</b>	1800		Holographic
<b>MSG32-1200-300</b>	1200	300	Ruled
<b>MSG32-1200-500</b>	1200	500	Ruled
<b>MSG32-600-1000</b>	600	1000	Ruled
<b>MSG32-600-1250</b>	600	1250	Ruled
<b>MSG32-300-500</b>	300	500	Ruled
<b>MSG32-300-1250</b>	300	1250	Ruled

Other gratings on request