Instruments

MountainSource-Hyperchromator

This monochromator has been especially developed and optimized for the laser-pumped light sources of the XWS series from ISTEQ. Due to their extremely high luminance, these light sources are particularly well suited for generating monochromatic light in the wavelength range of 200 nm – 2200 nm (UV/VIS/NIR).
Bandwidths from 1 nm to 20 nm are possible.
The light is collected directly from the lamp's plasma with an aperture of f/1.5, without using an additional entrance slit. This makes this tunable light source very efficient.
At the exit, the light is coupled into a multimode fiber.

The half-width of the output light can be further reduced by an adjustable slit.
For example, with the XWS-30 an output of more than 0.8 mW at 475 nm with a half-width of only 5.8 nm is achieved.
The wavelength is selected via USB interface from PC or laptop. Easy-to-use software is included. External control and integration into existing systems is possible via LabVIEW, Python, etc.
With the automatic dual grating changer it is possible to cover the whole wavelength range from 200 nm – 2200 nm without a manual grating change.

Key Features

- Different configurations available
- Fast optics, up to f/1.5 for highest throughput
- Homogenous output distribution due to a proprietary design
- Etendue-matched to ISTEQ XWS-30
- Broad tunable range from DUV to NIR
- No input slit
- Built-In Shutter
- Easy to use Software, Windows GUI, LabView on request

MountainSource-Hyperchromator Datasheet

Technical data:

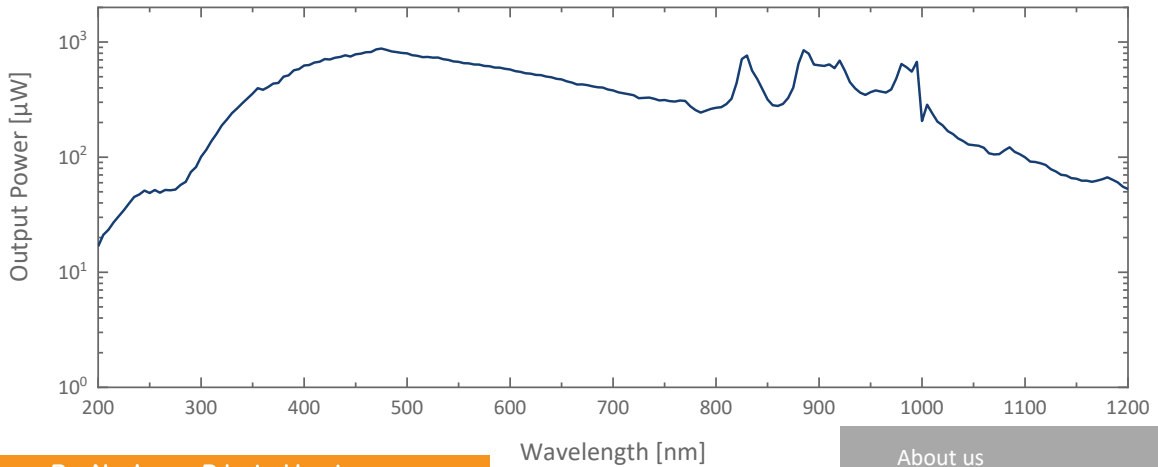
Optical input	ISTEQ light source XWS-30, XWS-65 or XWS-R, directly coupled
Optical output	Optical quartz fiber, SMA (standard) or FC, 100–1000 µm core diameter
Wavelength range	190 nm – 2200 nm*
Aperture	f/1.5
Bandwidth	1nm – 20 nm FWHM*
Output power	Up to 800 µW (grating at blaze wavelength, 6 nm bandwidth and 400 µm fiber)
Reproducibility	Typ. 0.1 nm
Scanning speed	40 – 100 nm/s*
Control interface	USB/RS-232, LabVIEW™-based GUI, various external control options
Dimensions and weight	46,3 x 35,3 x 18,7 cm; 13 kg

*depends on fiber diameter and gratings.

Gratings and output power:

The half-width of the light is determined by the number of lines of the gratings and the diameter of the fiber used. Gratings are available from 300 – 3600 lines/mm.
The following example shows the output power of the Hyperchromator with ISTEQ XWS-30. The XWS-30 uses a diode laser to drive a high intensity plasma, which emits light from 170 nm through the visible range into the near infrared and offers a much longer lifetime than conventional light sources.

Power Hyperchromator II, 400 µm fiber with NA = 0.22
Grating: 600 lines/mm, 500 nm blaze (FWHM: 5.8 nm)



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About us

Mountain Instruments is a brand of Mountain Photonics GmbH.
We aim at adding value to our customers by offering technical service, product development and in-house products.