

**Compact and cost-efficient
Ideal for high performance
portable solutions**

l b s e n 
p h o t o n i c s

Ibsen's FREEDOM UV-NIR spectrometers combine compact size, cost efficiency, and high performance with flexibility in the choice of detector system. These benefits make FREEDOM especially well-suited for integration into portable and handheld instruments. FREEDOM UV-NIR is built on a new transmission grating developed by Ibsen Photonics that provides high diffraction efficiency for both polarizations from 190 – 1100 nm.

The FREEDOM UV-NIR series comprises the FSA-101 for low cost, FSA-380 for fast integration time and the FSA-315 for low noise. Furthermore, if the specifications do not match your requirements, Ibsen can customize an OEM spectrometer to meet your exact needs.



FREEDOM UV-NIR

190 – 850 nm OEM Spectrometer

FREEDOM UV-NIR 190 – 1100 nm OEM Spectrometer

Key Benefits



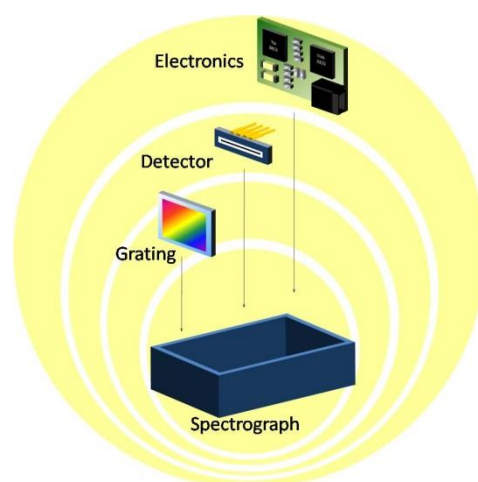
- **Small footprint**
- **High efficiency with low polarization dependence**
- **Flexible detector and electronics**
- **Robust and athermal design**

Specifications

Parameter	FSA-101	FSA-315	FSA-380
Wavelength range	190 - 1100 nm	190 - 1100 nm	190 - 1100 nm
Numerical aperture	0.15	0.15	0.15
Typical resolution	1.8 nm/FWHM	1.8 nm/FWHM	1.8 nm/FWHM
Stray light	<0.03%	<0.03%	<0.03%
Detector	Hamamatsu S11639 CMOS	Hamamatsu S10420 BT-CCD	Hamamatsu S11156 BT-CCD
Interface	Direct interface to detector pins (optional electronics available)		
Temperature drift	<0.02 nm/Degree C		
Operating temperature range. Non-condensing	-10 to +45 Degree C		
Dimensions	48 mm x 54 mm x 16 mm		

Modular Approach

Ibsen's OEM spectrometers are based on a modular design, whereby customers can choose to buy a complete spectrometer, a spectrograph or simply a spectrometer grating, depending on the approach that they prefer. Furthermore, our spectrometers can be fitted to almost any detector and electronics.



Specifications are subject to change without notice.