

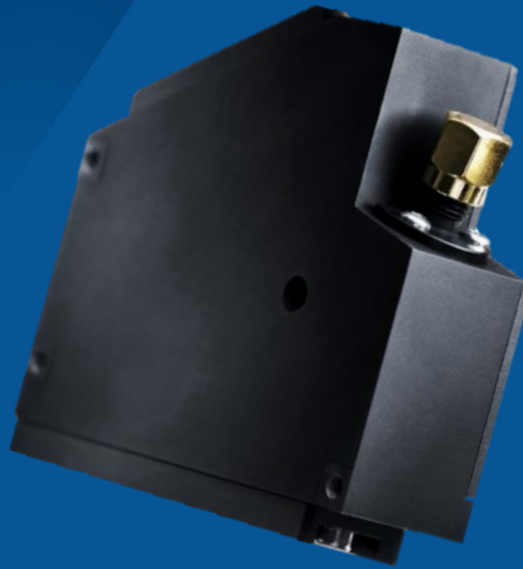
***Ultra compact and robust
Ideal for high resolution portable
solutions***

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

Ibsen's FREEDOM HR-VIS-NIR are ultra compact, robust, and high resolution spectrometers, suited for OEM integration into industrial grade Raman systems at 532, 785 or 830 nm excitation.

The FREEDOM HR-VIS-NIR series comprises the FHT-101 for low cost, FHT-380 for fast integration time and the FHT-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 HR-VIS-NIR

475 – 1100 nm OEM Spectrometer

FREEDOM HR-VIS-NIR 475 – 1100 nm OEM Spectrometer

Key Benefits



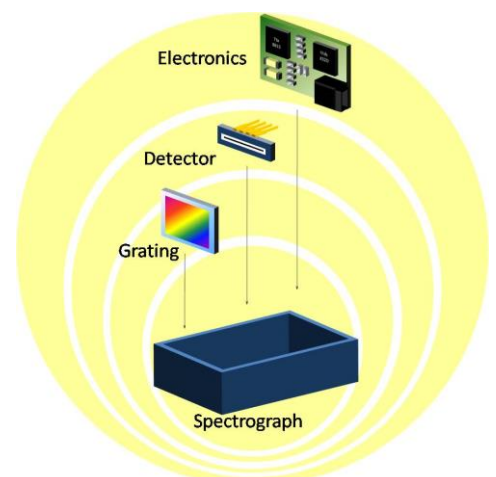
- **High resolution**
- **Wide spectral range**
- **Flexible detector and electronics**
- **Compact and athermal design**

Specifications

Parameter	FHT-101	FHT-315	FHT-380
Wavelength range	475 - 1100 nm	475 - 1100 nm	475 - 1100 nm
Numerical aperture	0.11	0.11	0.11
Typical resolution	0.6 nm/FWHM	0.6 nm/FWHM	0.6 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	<0.03 nm/Degree C		
Operating temperature range. Non-condensing	-10 to +45 Degree C		
Dimensions	61 mm x 65 mm x 19 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.