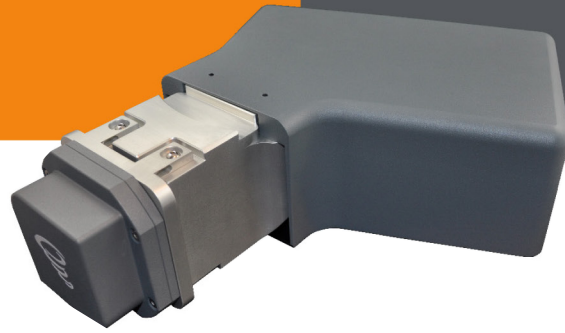


HyperFlux U1 Spectrometer Platform

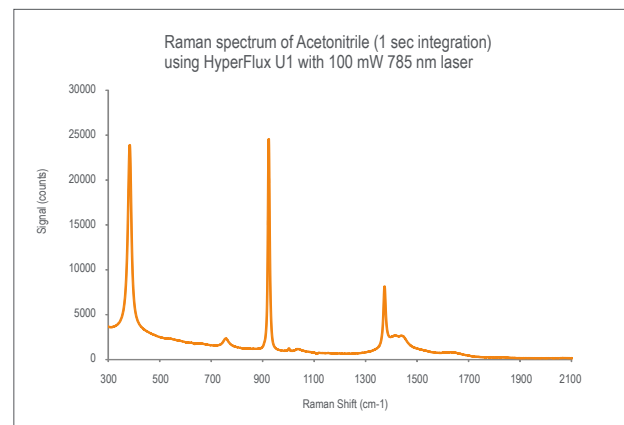


HyperFlux U1: The new standard in performance

Tornado's HyperFlux U1 is an HTVS-enabled spectrometer platform that can provide customized solutions in the ultra-violet, visible and near-infrared bands with spectral resolutions between 0.2 and 0.5 nm.

For Raman spectroscopy, U1 can offer Stokes and anti-Stokes coverage for typical laser excitation wavelengths (532, 633, 785, and others) with spectral resolution up to 4 cm^{-1} .

TYPICAL RESULTS



The HyperFlux U1 offers unmatched performance and customization

- No fixed configuration; we build to your resolution requirements across UV/VIS/NIR
- Detect weak signals quickly: fluorescence-free anti-Stokes, low-power illumination
- 4 cm^{-1} with no slit, using entire input aperture of 200 μm fiber
- Cooled & uncooled detector options

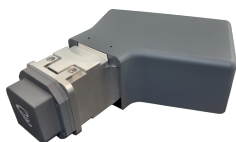
The HyperFlux U1 spectrometer platform offers high-performance spectroscopy with factory-configurable bandpass, resolution, and throughput UV/VIS/NIR options.

Example HyperFlux U1 Configurations

SPECIFICATION	STOKES	STOKES & ANTI-STOKES	UV
Application	785 nm Raman Stokes	633 nm Raman Stokes and anti-Stokes	Near UV and blue VIS
Bandpass	798-954 nm (200 to 2260 cm ⁻¹)	525-796 nm (-3200 to 3200 cm ⁻¹)	380-523 nm
Resolution	0.33 nm (4 cm ⁻¹)	0.42 nm (8 cm ⁻¹)	0.19 nm
Camera	Cooled	Cooled	Uncooled

Example: 785 nm Raman Stokes, cooled

SAMPLE SPECIFICATIONS:



Spectroscopic Performance

Spectral Range	798-954 nm (max 2260 cm ⁻¹ from a 785 nm laser)
Spectral Resolution	R = 2911* (0.33 nm FWHM, 4 cm ⁻¹), dispersion = 0.07 nm/pix
Grating	1200 lines/mm volume phase holographic, peak efficiency 85%
Input Source	SMA fiber optic cable, NA = 0.22, core diameter 200 μm
Slit	No slit

Computer Requirements

Computer Interface	USB 2.0
Operating System	Windows 7, XP, Vista
Memory Required	RAM > 64 MB, Hard disk space > 10 MB
External Trigger	Yes
Software Libraries	DLL files and static library
Power Supply	AC adaptor

Detector Specifications

Peak SNR	370
Detector	Mity CCD H10141-1107
Pixel Size	12 μm x 12 μm
Cooling	TE-cooled
Detector Length	2048 pixels (25 mm)
Wavelength Sensitivity	200 – 1100 nm
A/D Resolution	16 bits
Min. Integration Time	2 ms
Linearity	< 1% deviation from linear fit

Physical Dimensions

Width	12.2"	[31.0 cm]
Height	4.1"	[10.5 cm]
Depth	11.8"	[30.0 cm]
Weight	10 lbs	[4.5 kg]

* average taken of 2795 - 2989