



HyperFine Spectrometer

compact, sub picometer resolution

The HyperFine series of spectrometers are based on LightMachinery's patented fluid jet polishing technology. Designed for measuring hyperfine spectra and subtle spectral shifts, the HyperFine spectrometer from LightMachinery is a compact spectrometer capable of **1 picometer resolution**.

It is ideal for measuring fine features in plasmas, pulsed laser characterization and for measuring the small spectral shifts from Brillouin or Raman scattering. Simple PC based software allows the user to review spectra in real time and save or export for more analysis. LabView drivers enable the HyperFine spectrometer to be integrated into automated experimental setups.

Features

- FAST, No moving parts (single shot laser spectrum analysis)
- Sub picometer resolution
- Fiber optic input
- Quick data acquisition and export
- Simple USB interface
- LabView Drivers

Benefits

- Fast
- Compact
- Can resolve hyper fine spectra below 1 picometer
- Ultra-reliable
- LightMachinery's legendary customer support

Light source characterization

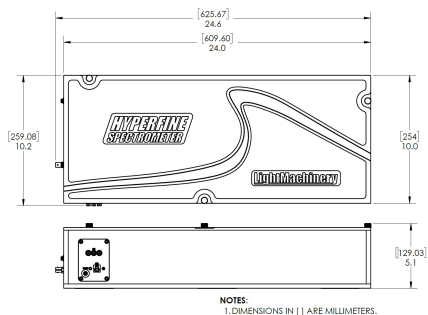
- Lasers of all types
- Single shot pulsed laser spectrum
- Super luminescent diodes
- Gas discharge lamps, etc

Passive components characterization

- Notch filters
- Etalons
- Fiber Bragg gratings, etc

Spectroscopy

- Plasma spectroscopy
- High-precision gas spectroscopy
- Brillouin or Raman spectroscopy
- Femtosecond comb fingerprinting spectroscopy
- Spectral-domain optical coherence tomography, etc
- Solar spectroscopy
- Astronomical spectroscopy
- Ultra-low frequency Raman
- Undergraduate physics and chemistry laboratories
 - Zeeman splitting
 - Hyperfine magnetic structure of elements
 - Hydrogen structure
 - Doppler shift of Fraunhofer lines due to sun rotation



Part Number	Spectral Region	Total Range (nm) with manual grating rotation	Simultaneous Range (nm) without grating rotation	Resolution (pm)	Resolution (1/cm)
HF-8993-1	UV	270 - 330	12	<2.5	0.3
HF-8993-2	UV	270 - 330	25	<5	0.6
HF-11457	UV	250 - 320	50	<15	1.7
HF-11458	UV	280 - 360	80	<15	1.7
HF-9340	UV	fixed grating	350 - 450	<25	1.5
HF-9332	VIS	fixed grating	450 - 650	<30	0.9
HF-8989-1	VIS	400 - 500	15	1.0	0.05
HF-8989-2	VIS	500 - 600	15	1.0	0.03
HF-8989-2e	VIS	525 - 640	15	1.0	0.03
HF-8988*	VIS	500 - 550	15	15	0.55
HF-8989-3	VIS	600 - 700	15	1.0	0.02
HF-9353	NIR	fixed grating	700 - 1050	<30	0.4
HF-8995-1	NIR	700 - 900	25	2.0	0.03
HF-8995-1-0.5	NIR	700 - 900	6	0.5	0.01
HF-8991-3	NIR	800 - 1000	20	2.0	0.02
HF-8995-2	NIR	900 - 1100	20	2.0	0.02