Diagnostics

Spectrometer ASP-100M

- Flexible settings selection
- Miniature
- High resolution down to 0.05nm
- USB interface
- Fiber input for model ASP-100MF
- No additional power supply
- Synchronization input/output
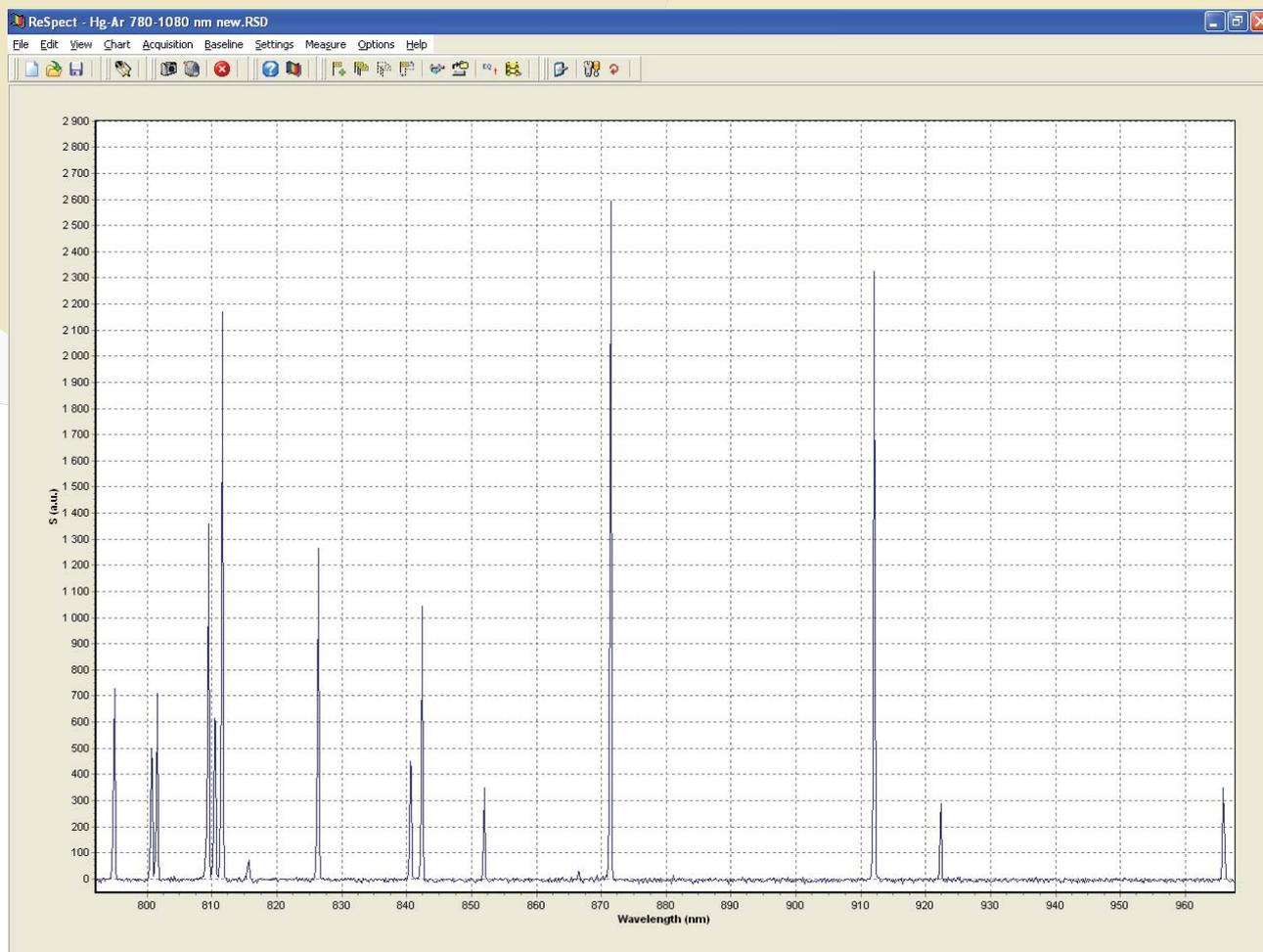- Software included
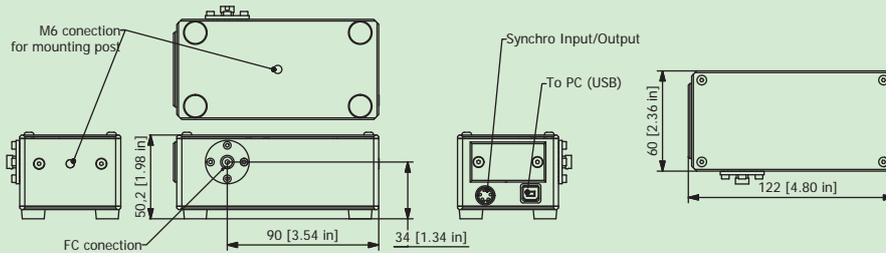
Spectrometer ASP-100M

Product overview

The miniature spectrometer ASP-100M has 122x60x50 mm dimensions and weighs 300 grams. The simplicity of the design allows to combine broad spectral range and high resolution with more than compact size. The device can be used in various space-demanding applications and also for OEM integration in any devices.

Model ASP-100MF features a special fiber input with a spectral slit, the size of which is conditioned with the detector. It allows measurement of either free-space or fiber signals without any realignment. However, it is not recommended to use fiber to measure spectrum of a femtosecond laser due to signal modulation and subsequent spectrum distortion.

Hg-Ar lamp spectrum

ASP-100M technical specifications

	ASP-100M							
Optical scheme	Cherny-Turner							
Spectral range for choosing the registration domain, nm	190-1100	190-1100	190-1100	190-1100	190-1100	190-800	190-450	190-300
Grating, grooves/mm	300	400	600	800	1200	1800	1800 II order	1800 III order
Registered spectrum region width, nm*	>1100	950	600	385	245	150	69	40
Spectral resolution, nm	1.35	1	0.65	0.5	0.3	0.18	0.085	0.05
Dispersion, nm/mm	38.5	28	18	13.5	8.5	5.2	2.4	1.4
Input slit, μm	10							
Focal length, mm	46							
Focal length of the camera objective, mm	75							

	Toshiba 1205D	Toshiba 1304AP	Hamamatsu S8378-1024Q
Array	Toshiba 1205D	Toshiba 1304AP	Hamamatsu S8378-1024Q
Number of cells	2048	3648	1024
Cell width, μm	14	8	24
Cell height, μm	200	200	500
Minimum exposure time, ms	7	7	2,1
Maximum exposure time, s	4	0,5	5
Sensitivity, V/lx*s	80	160	22(4,4)**
Antiblooming***	yes	no	yes
Meansquare noise of reading, counts of ADC	5,4	3,5	16(4,4)**
ADC	12 bit, 4096 counts	12 bit, 4096 counts	14 bit, 16384 counts
Dynamic range	1000:1	1000:1	1000:1 (4000:1)**
Fiber input****	FC, 400 μm UV fiber cable included (1 m.)		
Synchronization	external/internal		
PC connection	USB		
Dimensions, mm	60x50x122		
Weight, kg	0.3		

* - The necessary width and center of the registered range should be specified when placing an order. The ASP-150T has an operational range adjustment function.
** - The HAMAMATSU arrays provide for sensitivity control via special driving signal, that can set either low () or high sensitivity mode.
*** - Antiblooming - the property of the CCD to prevent the charge flow from the neighboring overexposed pixels.
**** - For model ASP-100MF.