

Acton InSight EFP (Extended Focal Plane)



- Improved imaging vs. the Acton Series SP2300
- Accepts all 68 x 68 mm gratings
- Internal light blocking shutter is included
- For streak camera & general spectroscopy applications**

Specifications	SP2300	InSight EFP
Focal length	300 mm	300 mm collimating; 338 mm focusing
Aperture ratio	f/3.9	f/3.9
Scan range	0 - 1400 nm mechanical range	0 - 1400 nm mechanical range
Linear dispersion *	2.38 nm/mm	2.20 nm/mm
CCD resolution * (20 µm pixel, 20 µm slit width)	0.14 nm	0.10 nm (center focal plane)
Astigmatism	50 µm at focal plane center 720 µm at focal plane edges	37 µm at focal plane center 450 µm at focal plane edges
Wavelength coverage * (across 26.8 mm CCD)	64 nm	59 nm
Grating size	68 x 68 mm, 68 x 84 (optional)	68 x 68 mm only
Grating mount	Interchangeable triple grating turret	Interchangeable dual grating turret
Focal plane size (front exit port)	27 mm wide x 14 mm high	27 mm wide x 14 mm high
Slit design options	10 µm to 3 mm, manual or motorized	10 µm to 3 mm, manual
Wavelength accuracy	± 0.2 nm	± 0.2 nm
Repeatability	± 0.05 nm	± 0.05 nm
Magnification	1.0	1.1
Size (L x W x H)	335 mm x 254 mm x 203 mm	374 mm x 246 mm x 208 mm
Optical axis height	123 mm	123 mm
Weight	15 kg	13 kg
Computer interface	USB and RS232	USB and RS232

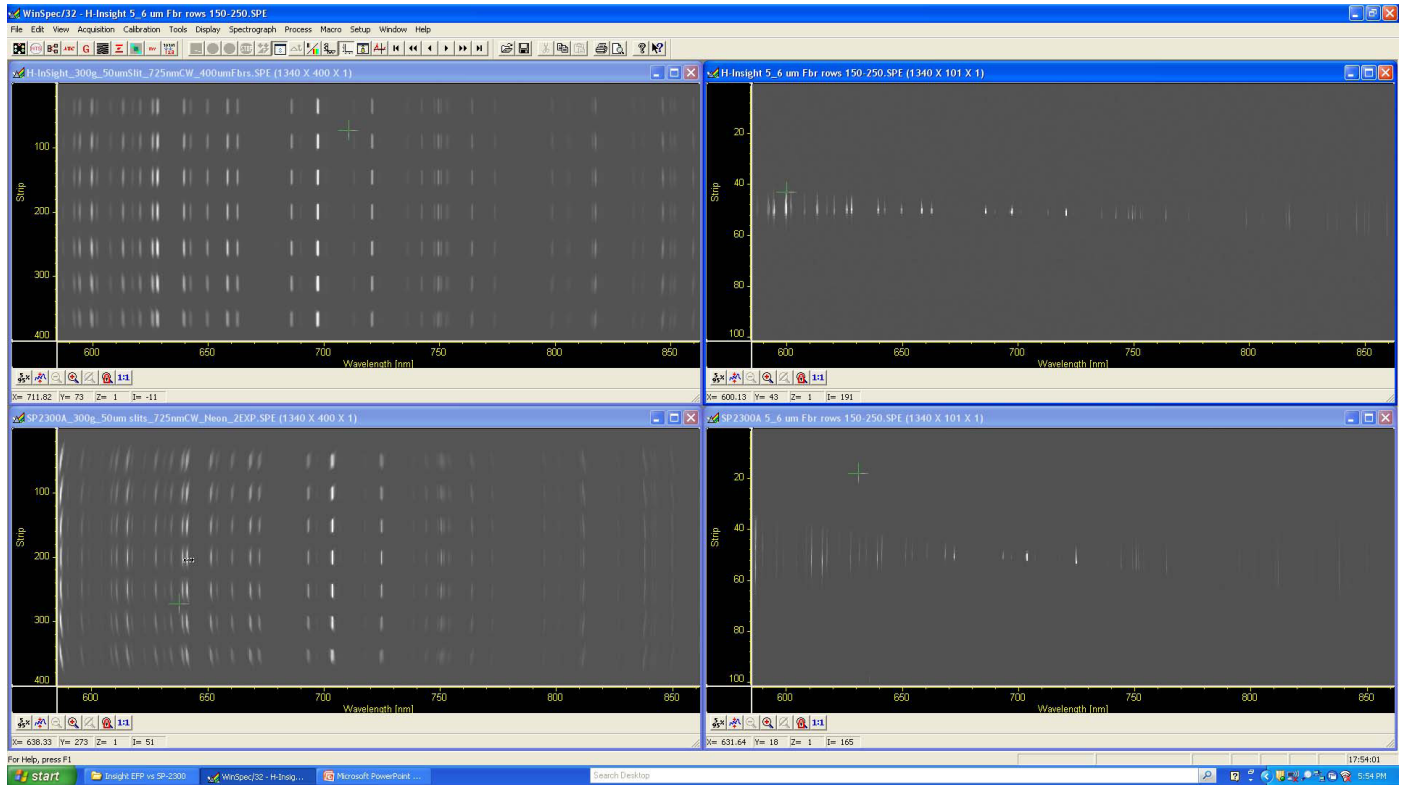
* Measured at 435.833 nm with a 1200 g/mm grating

** For general spectroscopy applications, the InSight EFP has a slit shutter and accepts shutterless PIXIS cameras with an optional adapter. For more information, please contact Princeton Instruments directly.

Common InSight EFP Gratings

Grating	Dispersion, nm/mm	Resolution, nm	Resolution, cm^{-1}	Approximate Focal Plane Coverage
50 g/mm @ 600 nm	57.9	2.5	70	1550 nm
100 g/mm @ 450 nm	28.9	1.3	63	775 nm
150 g/mm @ 500 nm	19.2	0.84	34	515 nm
300 g/mm @ 500 nm	9.51	0.42	17	255 nm

Imaging performance: Insight EFP vs SP-2300



Left: 400 μm fiber bundle at entrance slit
top, Insight EFP; bottom, SP-2300
400 x 1340 pixels shown (8 x 26.8 mm)

Right: 5.6 μm fiber at entrance slit
top, Insight EFP; bottom, SP-2300
100 x 1340 pixels shown (2 x 26.8 mm)