Standard SpectraPro HRS Gratings

Groove density (g/mm)	Blaze wavelength (nm)	Mechanical scanning range	Optimum wavelength range (nm)		Grating part number (68 mm x 68 mm)
50	600	0 – 36 µm	402	950	i1-005-600-P
66.6	740	0 – 27 µm	496	1150	i1-006-740-P
75	1800	0 – 24 µm	1200	2800	i1-007-1800-P
100	450	0 – 18 µm	300	700	i1-010-450-P
100	1500	0 – 18 µm	1000	2350	i1-010-1500-P
120	410	0 – 15 µm	275	650	i1-012-410-P
150	300	0 – 12 µm	200	500	i1-015-300-P
150	500	0 – 12 µm	330	800	i1-015-500-P
150	800	0 – 12 µm	425	1400	i1-015-800-P
150	1250	0 – 12 µm	850	2100	i1-015-1250-P
150	1600	0 – 12 µm	1050	2500	i1-015-1600-P
300	200	0 – 6 µm	135	325	i1-030-200-P
300	500	0 – 6 µm	330	800	i1-030-500-P
300	750	0 – 6 µm	500	1200	i1-030-750-P
300	1000	0 – 6 µm	650	1600	i1-030-1000-P
300	1200	0 – 6 µm	700	2100	i1-030-1200-P
300	1700	0 – 6 µm	1100	2700	i1-030-1700-P
300	2000	0 – 6 µm	1300	4000	i1-030-2000-P
600	150	0 – 3 µm	105	250	i1-060-150-P
600	300	0 – 3 µm	200	500	i1-060-300-P
600	500	0 – 3 µm	330	800	i1-060-500-P
600	750	0 – 3 µm	500	1300	i1-060-750-P
600	1000	0 – 3 µm	670	1600	i1-060-1000-P
600	1600	0 – 3 µm	1050	2500	i1-060-1600-P
900	500	0 – 2 µm	335	800	i1-090-500-P
1200	150	0 – 1500 nm	105	250	i1-120-150-P
1200	300	0 – 1500 nm	200	700	i1-120-300-P
1200	500	0 – 1500 nm	325	1000	i1-120-500-P
1200	750	0 – 1500 nm	475	1500	i1-120-750-P
1200	UV holographic	0 – 1500 nm	200	450	i1-120-HUV-P
1200	VIS holographic	0 – 1500 nm	400	1100	i1-120-HVIS-P
1800	250	0 – 1000 nm	160	400	i1-180-250-P
1800	500	0 – 1000 nm	330	800	i1-180-500-P
1800	670	0 – 1000 nm	450	1100	i1-180-670-P
1800	UV holographic	0 – 1000 nm	200	500	i1-180-HUV-P
1800	VIS holographic	0 – 1000 nm	350	1000	i1-180-HVIS-P
2400	150	0 – 750 nm	105	250	i1-240-150-P
2400	240	0 – 750 nm	160	400	i1-240-240-P
2400	UV holographic	0 – 750 nm	200	500	i1-240-HUV-P
2400	VIS holographic	0 – 750 nm	250	750	i1-240-HVIS-P
3600	240	0 – 500 nm	160	400	i1-360-240-P
3600	UV holographic	0 – 500 nm	200	500	i1-360-HUV-P
MIRROR	–	0 nm	–	–	i1-300-500-MIRROR

** Specifications at 500 nm, 3600 g/mm calculated at 250 nm*
Larger 68 mm x 84 mm gratings are available as an option in 1200, 1800, 2400, and 3600 g/mm to maintain throughput at high grating angles (1200 g/mm at 1000 nm and above, 2400 g/mm at 500 nm and above, etc.)

Grating Information

Spectroscopy grating sets*

	Grating 1	Blaze wavelength	Grating 2	Blaze wavelength	Grating 3	Blaze wavelength
UV set	600 g/mm	300 nm	1200 g/mm	300 nm	2400 g/mm	240 nm
High-resolution UV set	1200 g/mm	300 nm	2400 g/mm	240 nm	3600 g/mm	240 nm
UV-VIS-NIR set	1200 g/mm	300 nm	1200 g/mm	500 nm	1200 g/mm	750 nm
Visible set	300 g/mm	500 nm	600 g/mm	500 nm	1200 g/mm	500 nm
NIR set	600 g/mm	1000 nm	1200 g/mm	750 nm	1800 g/mm	1600 nm
SWIR set	150 g/mm	1600 nm	300 g/mm	1700 nm	600 g/mm	1600 nm

** Suggested grating sets. Build your own sets or contact us to help define the best gratings for your application.*

Dispersion and Resolution Information

Groove Density (g/mm)	Mechanical Scanning Range**	Dispersion (nm/mm)		CCD Spectral Resolution (nm)*	
		HRS-300	HRS-500	HRS-300	HRS-500
50	0 to 36 µm	64.12	39.5	2.4	1.2
66.6	0 to 27 µm	48.08	29.6	1.8	0.9
75	0 to 24 µm	42.67	26.3	1.6	0.8
100	0 to 18 µm	31.94	19.7	1.2	0.6
120	0 to 15 µm	26.57	16.4	1	0.5
150	0 to 12 µm	21.1	13	0.8	0.4
300	0 to 6 µm	10.4	6.5	0.4	0.2
600	0 to 3 µm	5.1	3.2	0.2	0.1
900	0 to 2 µm	3.25	2.1	0.133	0.067
1200	0 to 1500 nm	2.38	1.5	0.1	0.05
1800	0 to 1000 nm	1.4	0.9	0.068	0.033
2400	0 to 750 nm	0.8	0.6	0.05	0.025
3600	0 to 500 nm	0.7	0.5	0.034	0.0166

** Typical spectral resolution at 500 nm with 20 um wide entrance slit and Pixis: 400F CCD camera with 20 um pixels. 3600 g/mm data calculated at 250 nm.*

*** Mechanical scanning range is the full range of rotation for each grating, typically ~60 degrees. Efficiency and optimum operating range for each grating is determined by the grating blaze. This information can be found on page 12 of this brochure.*