



**Scientific diffraction gratings / Custom gratings**

**Holographic concave gratings - Type I**

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# Holographic concave gratings-Type I

Type I Holographic Concave Gratings are recorded on spherical substrates, with equidistant and parallel grooves. Their geometric optical properties are the same as classically ruled gratings and are interchangeable with them.

When used in a spectrograph, Type I Holographic Concave Gratings are traditionally disposed on the Rowland circle (i.e., the circle defined by the grating center and the tangential radius of curvature of the grating). The point-source entrance slit is also located

on this circle, and the grating forms a spectrum on this same circle, virtually free of defocus and primary coma. Spherical aberration is generally reasonable, yet astigmatism is very significant. As a result of this astigmatism, many Rowland spectrographs offer high resolution but are limited in their light-collection efficiency.

## List of Type I holographic concave gratings

groove density (l/mm)	spectral range (nm)	concave-radius (mm)	blank dimensions (mm)	reference
1200	200-800	112.14	32x32	521 12 350
100	4500-6000	112.14	32x32	531 26 350
150	500-700	139.19	Ø70	521 30 390
150	500-700	139.19	Ø90	521 30 430
83	400-800	173.9	Ø53	521 25 380
2400	200-400	201.4	58x58	521 05 060
2400	200-400	201.4	30x30	521 06 040
1200	200-600	201.4	58x58	521 12 060
1200	340-800	201.4	30x30	521 12 040
600	400-700	201.4	30x30	521 15 040
600	400-700	201.4	58x58	521 15 060
2700	120-400	498.1	Ø50.8	521 22 360
3600	100-300	499.7	30x30	521 02 100
3600	150-450	499.7	Ø63.5	521 03 101
2400	100-300	499.7	30x30	521 05 100
2400	200-400	499.7	30x30	521 06 100
4800	118-166	499.8	58x58	521 24 370
2700	120-165	600	Ø50	531 27 400
2400	165-590	600	Ø50	531 28 400
2400	170-600	752	Ø63.5	531 26 110
1200	60-150	995.4	Ø114.3	521 10 130
3000	130-520	998.8	Ø63.5	521 23 160
2550	120-415	998.8	Ø63.5	521 17 160
2400	100-300	998.8	Ø63.5	521 05 160
2160	70-200	998.8	Ø63.5	521 20 160
2160	170-450	998.8	Ø63.5	521 19 160
1080	170-800	998.8	Ø63.5	531 21 160
1080	337-815	998.8	Ø50.8	531 21 420
1666.7	165-670	1200	Ø50	521 29 410
3600	160-450	1500	Ø63.5	521 03 180
2400	160-450	1500	Ø63.5	521 05 180
2400	200-650	1500	Ø63.5	521 06 180
1200	170-700	1500	Ø100	521 11 190
600	90-270	1999.5	Ø100	521 13 220
600	100-300	2217.6	Ø63.5	521 14 240

Ruled area: extends to within a 2-4 mm border around the grating edge

Standard substrate material is Pyrex; on request, substrates including fused silica, Zerodur, ULE, metals, or other materials can be considered.

Standard coating is aluminum.

On request, AlMgF<sub>2</sub>, gold or platinum are also available for an additional cost.



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HORIBA Jobin Yvon is one of the world's largest manufacturers of analytical and spectroscopic systems and components and we are committed to serving our customers with superior products and technical support.

Established in 1819, Jobin Yvon is part of the HORIBA Group which employs more than 4,500 people worldwide, with annual sales in excess of \$900,000,000.

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