



Scientific diffraction gratings / Custom gratings

Holographic plane gratings

Commitment to quality



HORIBA Jobin Yvon offers complete customer service, including expert technical advice for optimizing system configurations to meet customers' needs.

HORIBA Jobin Yvon is ISO 9001:2000 certified, and our well-staffed departments are committed to customer satisfaction and product quality.

Holographic plane gratings

HORIBA Jobin Yvon has produced a wide range of holographic master gratings from which we manufacture high precision replicas.

Our replica gratings retain the advantages of our master holographic gratings:

- Perfect periodicity, plus excellent micro-roughness of the surface eliminates ghosts and enhances stray light rejection
- Minimal groove errors provide very high resolution
- Availability of very high groove densities: up to 5670 lines/mm

Dimensions of our high-precision replica gratings typically range from 25x25 mm up to 120x140 mm. For customers in need of larger dimensions, HJY can record a custom-made holographic grating master specifically for replication.

Typical efficiency performances of holographic plane gratings

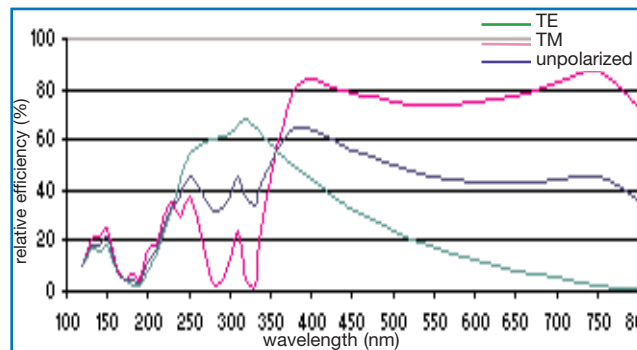
The efficiency of a sinusoidal holographic grating is determined by the ratio of the wavelength and groove spacing λ/σ . In general:

- if $\lambda/\sigma \geq 0.8$, efficiency will approach 85% in TM polarized light, and 60% in unpolarized light
- when $0.2 \leq \lambda/\sigma \leq 0.8$, efficiency for unpolarized light is between 35% and 50%.
- when $\lambda/\sigma < 0.2$ maximum efficiency in unpolarized light will be approximately 35% for the UV, visible, and near IR region of the spectrum.

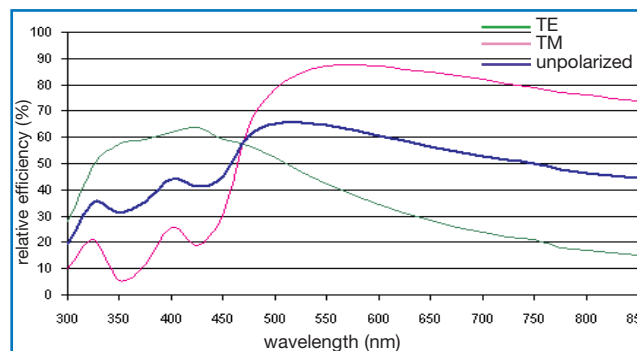
Holographic gratings usually exhibit a very broad spectral bandwidth.

Typical holographic plane grating efficiencies

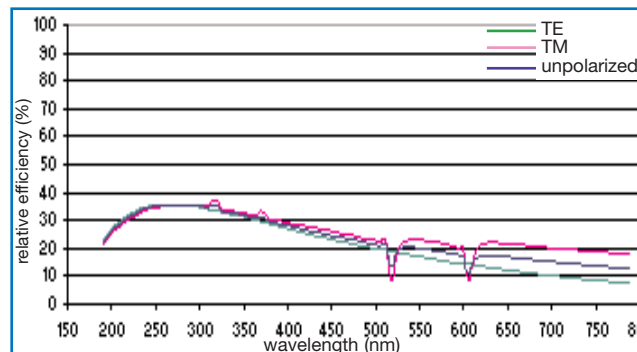
Efficiency curves



520 13, 2400 l/mm, 170-500 nm



520 19, 1800 l/mm, 450-850 nm



520 25, 1200 l/mm, 190-700 nm

NOTE:

These efficiency curves are absolute theoretical efficiencies, calculated using rigorous electromagnetic theory, taking into account the true groove profiles of manufactured gratings measured with an atomic force microscope (AFM). These curves are for reference only and do not indicate grating specifications.

List of standard holographic plane gratings

l/mm	spectral range (nm)	reference	available max replica dimension
5670	100-300	520 01	
4960	100-350	520 02	
4320	170-400	520 04	
4320	100-300	520 05	
3600	150-450	520 07	
3000	250-550	520 09	
2400	300-650	520 12	
2400	170-500	520 13	
2400	100-300	520 14	
2000	450-750	520 15	
2000	190-700	520 16	
2000	150-450	520 17	
2000	100-300	520 18	
1800	450-850	520 19	
1800	190-700	520 20	
1800	150-450	520 21	
1800	100-300	520 22	
1200	400-1300	520 24	
1200	190-700	520 25	
1200	150-450	520 26	
1200	100-300	520 27	
900	1250-1750	520 95	
600	400-1300	520 29	
600	150-450	520 30	
150	250-800	520 32	
150	400-1200	520 33	

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 aluminium. On request, AlMgF2, gold or platinum are also available for an additional cost.

Grating size table

size code	blank size
020	25x25x8
050	34x34x10
070	30x40x10
080	44x44x10
090	40x60x10
330	50x50x6
110	58x58x10
120	68x68x9
140	76x76x16
150	90x90x16
160	80x110x16
180	110x110x16
190	110x135x25
200	120x140x20

To place an order, please use the grating reference number and add the size code;

Example:

For 2000 lines/mm and the spectral range 150-450 nm, use the grating reference 520 17.

For the size 58x58x10 mm, use the size code 110.

Therefore, the full part number of this grating is 520 17 110.

FAX FORM

For more information or custom grating / mirror quotations, please complete the corresponding request info on our web site: www.jobinyvon.com or send this completed form by fax.

The personal details that we use to provide or promote our products and services (for example your name and telephone number), will NOT be passed to ANY organization beyond the HORIBA Group, its Subsidiary or Associate Companies, Agents or Distributors to be used for marketing purposes.

Your Contact Details:

Last Name:	First Name:
Title:	Organization:
Dept:	Address:
State/Province:
Country:	Postal Code:
(USA please include Zip)	
Telephone:	E-Mail:
Fax:	

Please keep me informed with up-to-date information.

Your Interest

My interest is:

- Information only Possible purchase I have funding I am applying for funds

I intend to purchase

- Now! Within 3 months Within 6 months Within 12 months More than 12 months

Salesperson please call

Please Send Product Information For:

Gratings & OEM

- Diffraction Gratings
 Pulse Compression Gratings
 OEM Spectrometers
 Imaging CCDs
 Multi Channel Imaging

Vacuum UV

- Monochromators & Spectrographs
 Mirrors
 Gratings

My Application is:

We would be interested in learning more about your application. Please give details below:

.....
.....

Comments

Please include any comments or further information about your requirement below:

.....
.....

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COMPANY PROFILE

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.

HORIBA Jobin Yvon, Sofie, Dilor, Spex and IBH are some of our well known and respected brand names.

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(All HORIBA Jobin Yvon companies were formerly known as Jobin Yvon)

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