



**Scientific diffraction gratings / Custom gratings**

**Monochromator gratings - Type IV**

# 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.

# Monochromator gratings - Type IV

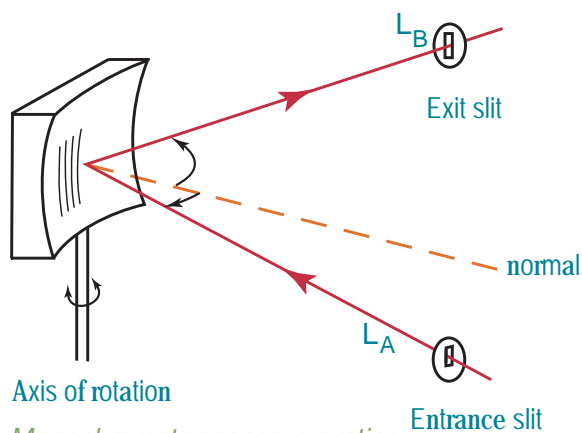
## Monochromator gratings - Type IV

Using Type IV aberration-corrected monochromator Gratings, a single concave grating disperses, collimates and refocuses the light from the entrance slit onto the exit slit. Wavelength scanning is obtained through a simple rotation of the grating.

The groove spacing of these gratings is computer-optimized to produce high quality images with a mini-

imum of astigmatism and coma, even at large numerical aperture.

Compared with Czerny-Turner monochromators (equipped with one plane grating, one collimating mirror and one focusing mirror) Type IV aberration corrected monochromator gratings provide much better light collection efficiency and signal-to-noise ratio.



Axis of rotation

Monochromator concave grating

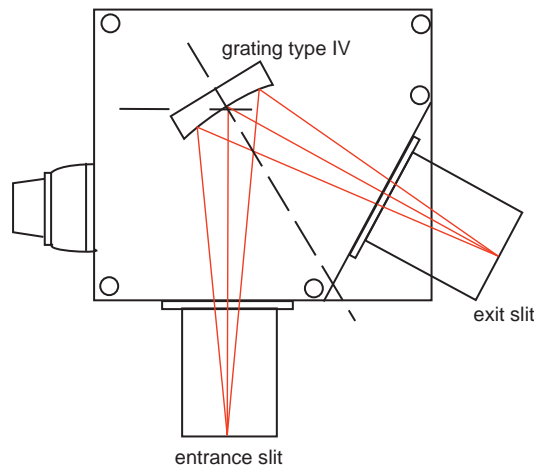
LA: distance between the grating and the entrance slit

LB: distance between the grating and the exit slit

D: deviation angle

F/#: optical aperture

Example monochromator model H10-61  
 Optical aperture: F/3  
 Focal length: 100 mm  
 ACH grating: aberration corrected holographic grating



## Custom, aberration corrected, concave gratings

In addition to the standard lists of Type IV flat field and monochromator gratings, HJY currently produces specific aberration-corrected concave gratings to maximize performance for a given application.

In that case, using proprietary ray-tracing software, we optimize performance: resolution, throughput and signal to noise ratio. We need following data from our customers:

- spectral range
- configuration of use: monochromator or spectrograph
- numeral aperture (F number) or size of grating

- maximum overall dimension or maximum focal length
- desired dispersion
- desired resolution
- entrance slit width and height or source geometry
- minimum deviation: in general deviation has to be minimum to improve correction of astigmatism, so indicate possible minimum deviation when overall dimensions of source, sample chamber and detector are taken into consideration.
- at exit: if monochromator, exit slit width and height, and if flat field, length of detector, height and width of pixel.

## List of Type IV aberration-corrected monochromator gratings

Gratings are replicated from our extensive inventory of high-quality master gratings. New gratings are frequently added; please inquire for your specific needs.

When blaze wavelength is indicated (blaze column), it means that this grating has been blazed by ion etching and presents high efficiency  
 Ruled area: extends to within a 2-4 mm border around the grating edge.

spectral range (nm)	dispersion (nm/mm)	groove density (l/mm)	deviation D (deg)	ℓA	ℓB	blank dim.	F	blaze	order	reference
190-800	8	1200	61.6	100	94.0	32x32	3	250	1	532 00 110
250-800	8	1200	61.6	100	94.0	32x32	3	350	1	532 00 120
300-1200	12	800	61.6	100	94.0	32x32	3		1	522 00 130
300-800	8	1200	61.6	100	94.0	32x32	3	450	1	532 00 130
400-1600	16	600	61.6	100	94.0	32x32	3		1	522 00 140
800-3200	32	300	61.6	100	94.0	32x32	3		1	522 00 150
190-900	4	1200	61.6	200	187.9	40x45	4.2	250	1	532 00 210
200-1000	4	1200	61.6	200	187.9	40x45	4.2	350	1	532 00 220
300-1100	4	1200	61.6	200	187.9	40x45	4.2	450	1	532 00 230
350-1200	6	800	61.6	200	187.9	40x45	4.2		1	522 00 260
400-1600	8	600	61.6	200	187.9	40x45	4.2		1	522 00 230
400-2100	10	450	61.6	200	187.9	40x45	4.2		1	522 00 270
800-3200	16	300	61.6	200	187.9	40x45	4.2		1	522 00 240
100-300	4	1200	64	200	187.9	40x45	4.2		1	522 00 250
175-520	0.5	1500	61.2	1232	1000	42x42	26		1	522 00 470
200-800	2.2	1484	46.4	335	303	∅150	2.2		1	522 00 450
200-800	7	950	40	136	151	∅32	4.2	250	1	532 00 520
250-750	2.2	1500	56	300	320	58x58	4.6		1	522 00 460
350-800	2.2	1484	46.4	335	303	∅150	2.2		1	522 00 490
380-740	9	1800	38	201	184	90x90	2		1	522 00 510
400-1100	9	670	27	150	150	50x50	3		1	522 00 540
400-1200	3.3	1000	46.4	335	303	∅150	2.2		1	522 00 480
480-800	0.5	2000	3	1000	1000	110x110	8		1	522 00 410
1000-2400	9.6	500	41.3	191	184	∅70	2.5		1	522 00 600
1100-2500	8	600	30	210	160	∅110	1.9		1	522 00 530
1200-2400	3	570	38	201	184	90x90	2		1	522 00 500
5000-10000	64	100	38	108	113	60x70	1.6		1	542 00 160

# FAX FORM

For more information or custom grating / mirror quotations, please complete the corresponding request info on our web site: [www.jobinyvon.com](http://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:

.....  
.....

**USA - HORIBA Jobin Yvon Inc**

Tel: +1-732-494-8660  
Fax: +1-732-549-5125  
Email: info@jobinyvon.net

**France - HORIBA Jobin Yvon SAS**

Tel: +33 (0) 1 64 54 13 00  
Fax: +33 (0) 1 69 09 07 21  
Email: info@jobinyvon.fr

**Japan - HORIBA Ltd**

Tel: +81 (0) 3 38618231  
Fax: +81 (0) 3 38618259  
Email: info@horiba.co.jp

**Germany - HORIBA Jobin Yvon GmbH**

Tel: +49 (0) 89 46 23 17-0  
Fax: +49 (0) 89 46 23 17-99  
Email: info@jobinyvon.de

**Italy - HORIBA Jobin Yvon SRL**

Tel: +39 0 2 57603050  
Fax: +39 0 2 57600876  
Email: info@jobinyvon.it

**UK - HORIBA Jobin Yvon Ltd**

Tel: +44 (0) 20 8204 8142  
Fax: +44 (0) 20 8204 6142  
Email: info@jobinyvon.co.uk

**China - HORIBA Jobin Yvon SAS**

**Beijing representative office**

Tel: +86 (0) 10 8567 9966  
Fax: +86 (0) 10 8567 9066

**Shanghai representative office**

Tel: +86 (0) 21 3222 1818  
Fax: +86 (0) 21 6289 5553  
Email: jjh@jobinyvon.cn

HORIBA Jobin Yvon attempts to provide accurate information in this catalogue, however HORIBA Jobin Yvon assumes no responsibility should errors or inaccuracies

occur. HORIBA Jobin Yvon reserves the right to change the content without notice and provides this catalog "as is" with no warranty either express or implied.

## 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.

**HORIBA** JOBIN YVON

USA: HORIBA Jobin Yvon Inc., 3880 Park Avenue, Edison, NJ 08820-3012, Toll-Free: +1-866-jobinyvon  
Tel: +1-732-494-8660 Ext 232, Fax: +1-732-549-5125, E-mail: oem@jobinyvon.com, www.jobinyvon.com  
France: HORIBA Jobin Yvon S.A.S., 16-18, rue du Canal, 91165 Longjumeau Cedex,  
Tel: +33(0)164541338, Fax: +33(0)169099319, E-mail: oem.sales@jobinyvon.fr, www.jobinyvon.com  
Japan: HORIBA Ltd., JY Optical Sales Dept, Higashi-Kanda, Daiji Building, 1-7-8 Higashi-Kanda  
Chiyoda-ku, Tokyo 101-0031, Tel: +81 (0) 3 3861 8231, www.jyhoriba.jp  
Germany: +49 (0) 89 462317-0 Italy: +39 0 2 57603050 UK: +44 (0) 20 8204 8142  
China: +86 (0) 10 8567 9966

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

Explore the future

**HORIBA**