

PGM -Series Plane Grating Monographs

Straight by Design



Monographs to explore the 1 - 175 nm spectral range

Applications

- High Harmonic Generation
- Plasma Physics Study
- VUV Laser Analysis
- Study of High Harmonics Filters
- FUV/EUV Spectroscopy
- XPS
- EUV Reflectometry

The PGM (Plane Grating Monograph) series are especially designed for analyzing Extreme UV (EUV) to Far UV (FUV) as a monochromator (slit-slit) or spectrograph (slit-CCD port).

Instead of having a fixed spherical grating and the exit port rotating on the Rowland circle like most of the other common designs, our PGM is straight (the entrance and exit arm are parallel) and both entrance and exit ports are fixed, making our compact PGM a very easy solution to integrate into your existing setup.

Features

- Imaging Correction^{Plus} Technology
- On Axial optical design
- Choice of master or replica gratings
- Kinematic Grating Mount or three gratings slider
- CCD port mounted on X table
- Patented layout
- High vacuum compatible

Benefits

- The best image on your CCD over 25 mm focal plane
- Less room needed and easy to align
- Optimize damage threshold or cost
- Interchangeable gratings
- In vacuum focus adjustment
- Use grazing incidence angles onto the optics and normal incidence for CCD illumination
- A few 10⁻⁶ mbar– option a few 10⁻⁹ mbar

Options

- Ultra High Vacuum (UHV, a few 10⁻⁹ mbar) version
- Slider for grating change under vacuum

Accessories

- EUV/UV Light Sources
- CCD detectors
- Single channel detection
- Mirror chambers
- Single channel detection
- Mirror chambers

Gratings available

Model	Gratings		Spectral Range**		Exit Dispersion	Resolution*** (FWHM in nm)
	Part Number	Density (gr/mm)	nm	eV		
PGM200	544 01 010*	1800	1 - 25 3.5 - 16	50-1240 78-354	0.4 nm/mm at 3.5 nm, 0.7 nm/mm at 16 nm	0.10 at 13 nm
	544 02 010*	800	2 - 56 6.5 - 35	22 - 620 36 - 190	0.9 nm/mm at 3.5 nm, 1.5 nm/mm at 35 nm	0.14 at 33.5 nm
	544 06 010*	450	3 - 100 10.5 - 63	12 - 400 20 - 120	1.6 nm/mm at 10.5 nm, 2.6 nm/mm at 63 nm	0.15 at 10.5 nm
PGM1000	544 02 130*	1800	2-35 8 - 35	35 - 620 35 - 155	0.09 nm/mm at 8 nm, 0.03 nm/mm at 35 nm	0.008 at 8 nm
	544 01 030*	550	7-126 30 - 125	10 -180 10 - 41	0.3 nm/mm at 30 nm, 0.07 nm/mm at 125 nm	0.03 at 30 nm

* grating are available in Master or Replica version

** Spectral range depends on the selected coating

*** using 10 µm by 2 mm slits

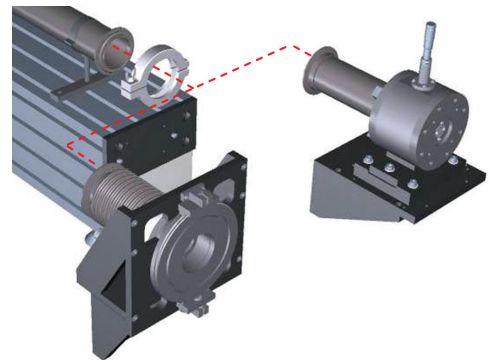
Wide spectral range
True flat field
Monograph design
EUV Spectroscopy
Imaging Correction^{PLUS}
technology

A corrected grating for original optical layout

A versatile and interchangeable exit port

Based on our unique optical design coupling a toroidal mirror and an aberration corrected plane grating, the PGM can be used both as a monochromator (with an exit slit) or as a flat field spectrograph (with CCD port).

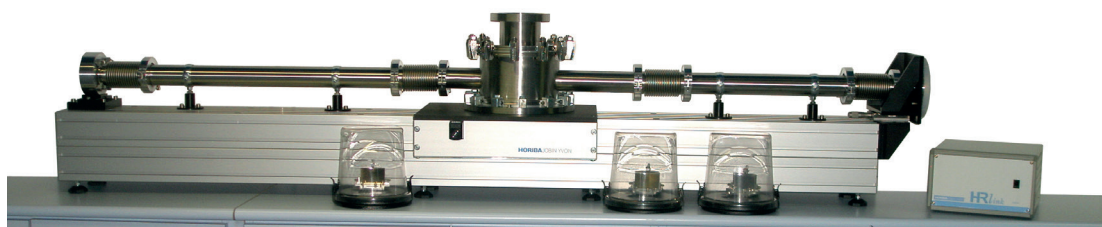
Flat-field focus plane being always perpendicular to the exit axis of the instrument, the CCD receives the maximum energy dispersed by the grating over the whole spectral range of analysis.



Exit ports of the PGM-PGS are easily interchangeable from slit to CCD by user

PGM specifications

	PGM200	PGM1000
Optical design	Toroidal mirror and plane VLS grating	
Focal length	200 mm	1000 mm
Aperture	f/16	f/50
Optic coating	Pt or Au	
Deviation angle	165°	156°
Drive	Sine arm	
Vacuum	A few 10 ⁻⁶ mbar (HV version) or a few 10 ⁻⁹ mbar (UHV version)	
Pumping flange	DN63 LF (DN100 CF)	
Entrance port	Micrometric slit (10 µm to 2 mm)	
Entrance flange	DN40 KF (DN 40 CF)	
Exit port	Micrometric slit (10 µm to 2 mm) or adjustable CCD port	
Exit flange	DN40KF (DN40 CF) for slit version, DN100CF for CCD version	
Software	HORIBA Scientific software	
PC Interface	USB2	
Option: Grating turret	Triple grating turret	Double grating turret



HORIBA Scientific, Your partner in VUV Spectroscopy

Contact Us

France: Tel: +33 (0)1 69 74 72 00

USA: Tel: +1 732 494 8660

Japan: Tel: +81-(75)313 8123

Germany: Tel: +49 (0)6251 8475-0

UK: Tel: +44 (0)20 8204 8142

Italy: Tel: +39 2 5760 3050

China: Tel: +86 (0)21 6289 6060

Brazil: Tel: +55 (0)11 5545 1500

Other: Tel: +33 (0)1 69 74 72 00

www.horiba.com/scientific

info.sci@horiba.com

Follow Us

