

Variable Groove Depth (VGD) master gratings for XUV applications



One VGD grating gives you the efficiency of several classical gratings

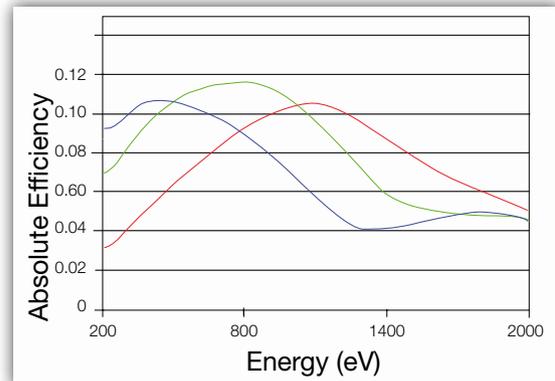
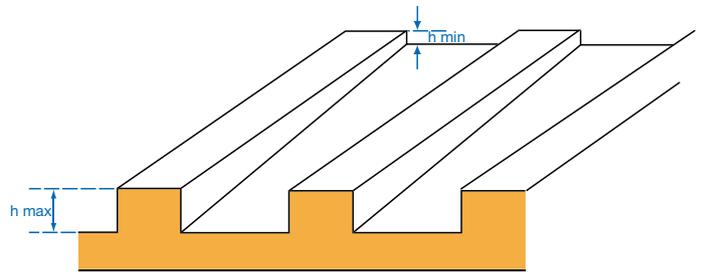
Variable Groove Depth (VGD) gratings from HORIBA Jobin Yvon exhibit a continuously-varying groove depth across the grating width, allowing for continuous adjustment of the grating blaze wavelength with a simple lateral translation. When such blaze adjustments are combined with rotational scanning and a narrow beam, our VGD gratings provide a unique opportunity to perform continuous on-blaze scans and to minimize harmonic contamination over a wide spectral range.

Our VGD grating technology is compatible with the most-recent synchrotron beamline designs that provide a mm size synchrotron beam onto the grating. Replacing a classical or multi-track gratings with a HORIBA Jobin Yvon VGD will open new experimental opportunities, with optimized flux performance over the entire beamline spectral range.

VGD efficiency

Relevant features

- Grating blaze wavelength tuning,
- Synchrotron compatible,
- Holographic recording processes,
- Low stray light and minimized harmonic contamination,
- Material: Silicon, Fused Silica,
- TGroove depth: typically from h_{min} to $h_{max}=4h_{min}$,
- Land to groove ratio: $\sim 0.55 \pm 15\%$,
- Coatings: Au, Ni, Pt.



— h_{min}
— h_{centre}
— h_{max}

Example of VGD gratings. Contact us for custom design.

Blank size (mm)	Useful area (mm)	Groove density (l/mm)	Nominal depth variation over 25 mm		
			h_{min} (nm)	h_{centre} (nm)	h_{max} (nm)
40 x 100 x 30	35 x 90	1800	4.5	10	15.5
40 x 100 x 30	35 x 90	600	18	35	52
40 x 100 x 30	35 x 90	300	42.5	80	117.5

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