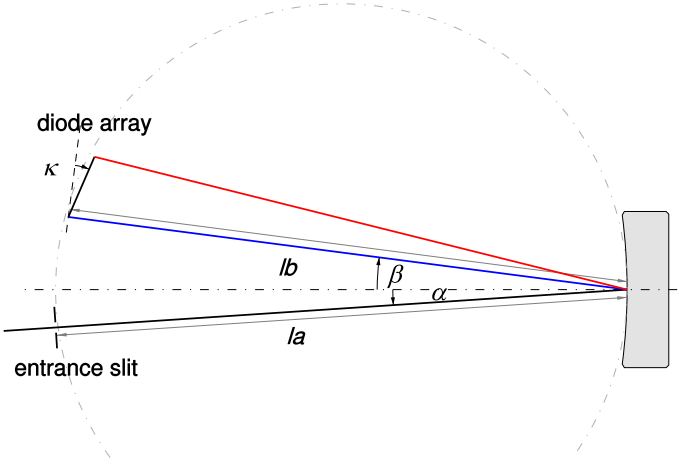
Concave Grating
Polychromator Mounting

Order number 264510-2952-724

Grating specification

Groove density	320 ± 1 l/mm
Groove profile	Blazed
Diffraction grating area	≥ Ø 24 mm
Reflective coating	Aluminum (unprotected)
Grating master type	Holographically recorded
Grating type	Epoxy replica (copy)
Storage and transport temperature	-40 °C … +60 °C (non-condensing environment)

Mounting specification (Schematic drawing)



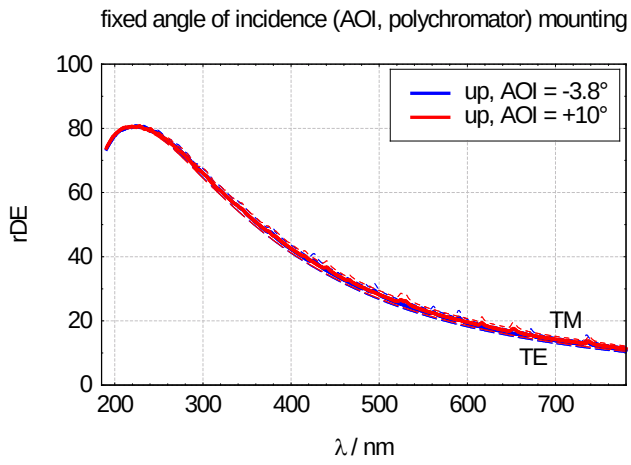
By historic convention clockwise incident and diffraction angles are positive.

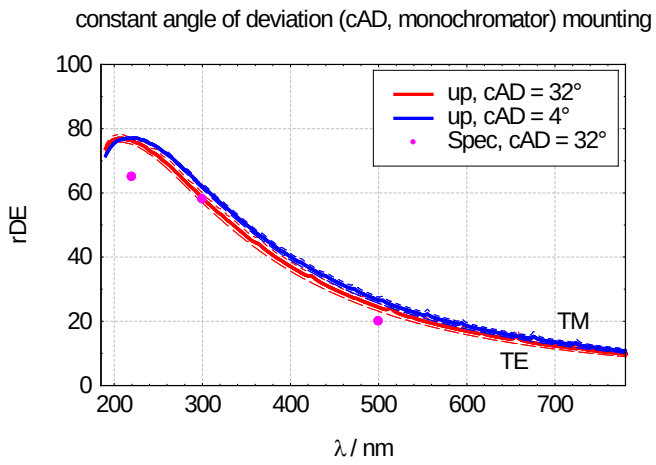
Optical grating characteristics

Diffraction efficiency (unpolarized @ cAD = 32°)

220 nm	≥ 65 %
300 nm	≥ 58 %
500 nm	≥ 20 %

Typical relative diffraction efficiency (rDE) in first diffraction order

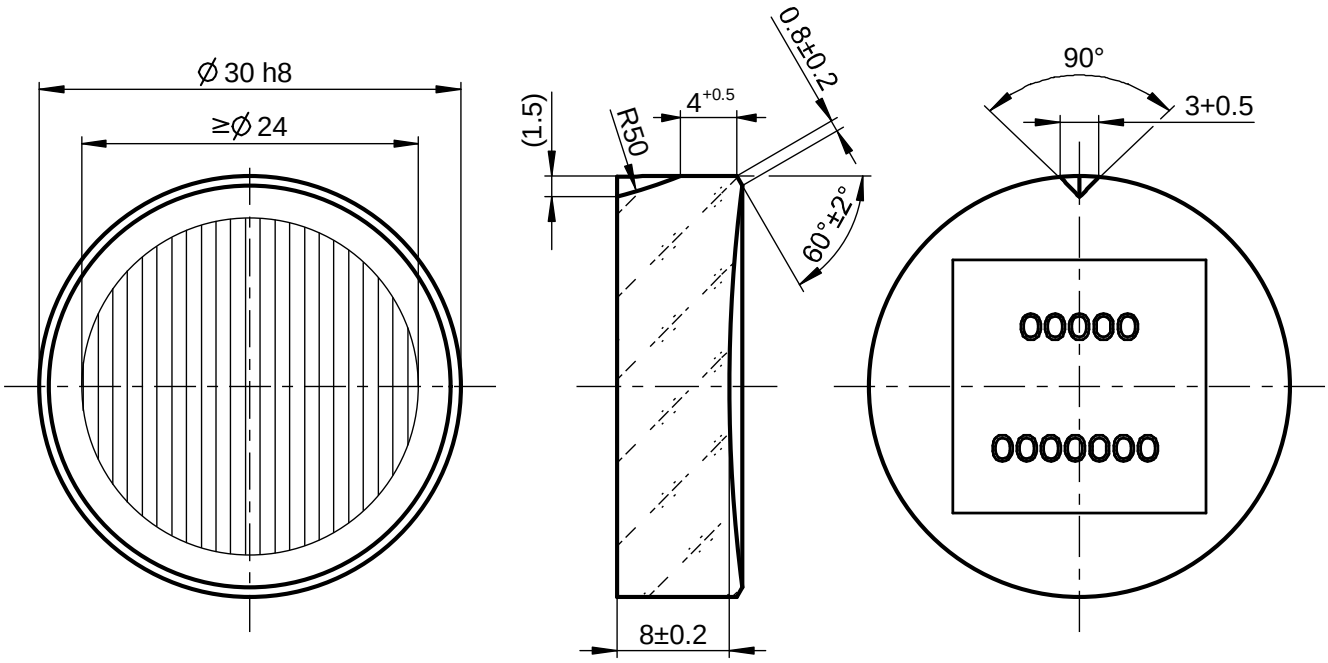




Typical efficiency curves based on rigorous electromagnetic modeling using measured AFM profiles. rDE refers to the ratio between diffracted power from the grating and reflected power from a mirror coated with the same material.

Blank specification

Material	N-BK7 (optical glass)
Radius of curvature	109.772 mm
Protective bevel (left surface)	0.5 mm



Application range	**200 – 550 nm**		**200 – 800 nm**	
Object distance l_A	110 mm		97.6 mm	
Incidence angle α	-3.8°		10°	
Spectrum length	12.5 mm		23.4 mm	
Reciprocal linear dispersion	28.0 nm/mm		25.6 nm/mm	
Astigmatism (point image extension)	< 0.9 mm		< 0.8 mm	
Point image resolution	< 1.1 nm		< 1.7 nm	
Relative aperture	1 : 4.6		1 : 4.1	
	λ = 200 nm	**λ = 550 nm**	**λ = 200 nm**	**λ = 800 nm**
Focal distance l_B	108.23 mm		122.4 mm	
Diffraction angle β	7.4°	14.0°	-6.3°	4.7°
Tilt angle k **of the detector array**	-16.1°		-7.9°	

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