

Concave Grating Polychromator Mounting

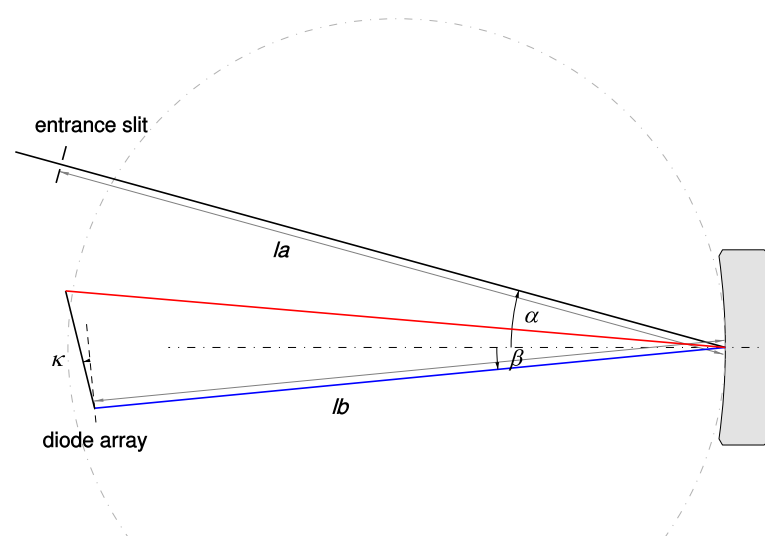


Order number 000000-1329-190

Grating specification

Groove density	844.75 ± 0.75 l/mm
Groove profile	Blazed
Diffraction grating area	≥ Ø 34 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)



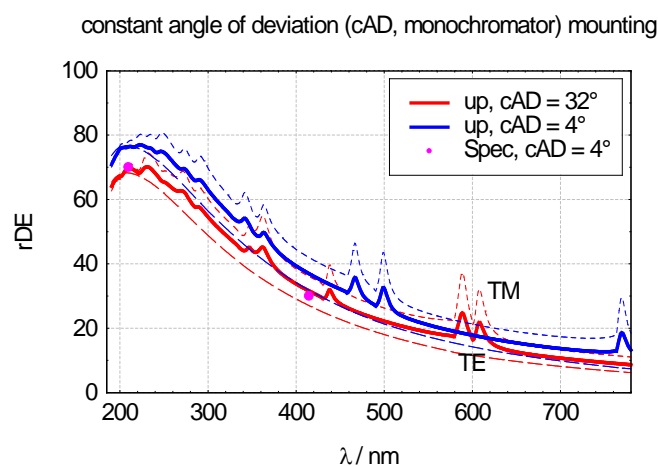
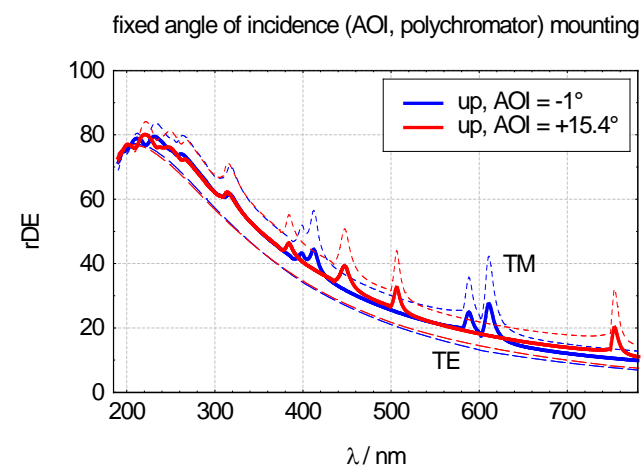
By historic convention clockwise incident and diffraction angles are positive.

Optical grating characteristics

Diffraction efficiency (unpolarized @ cAD = 4°)

210 nm	≥ 70 %
415 nm	≥ 30 %

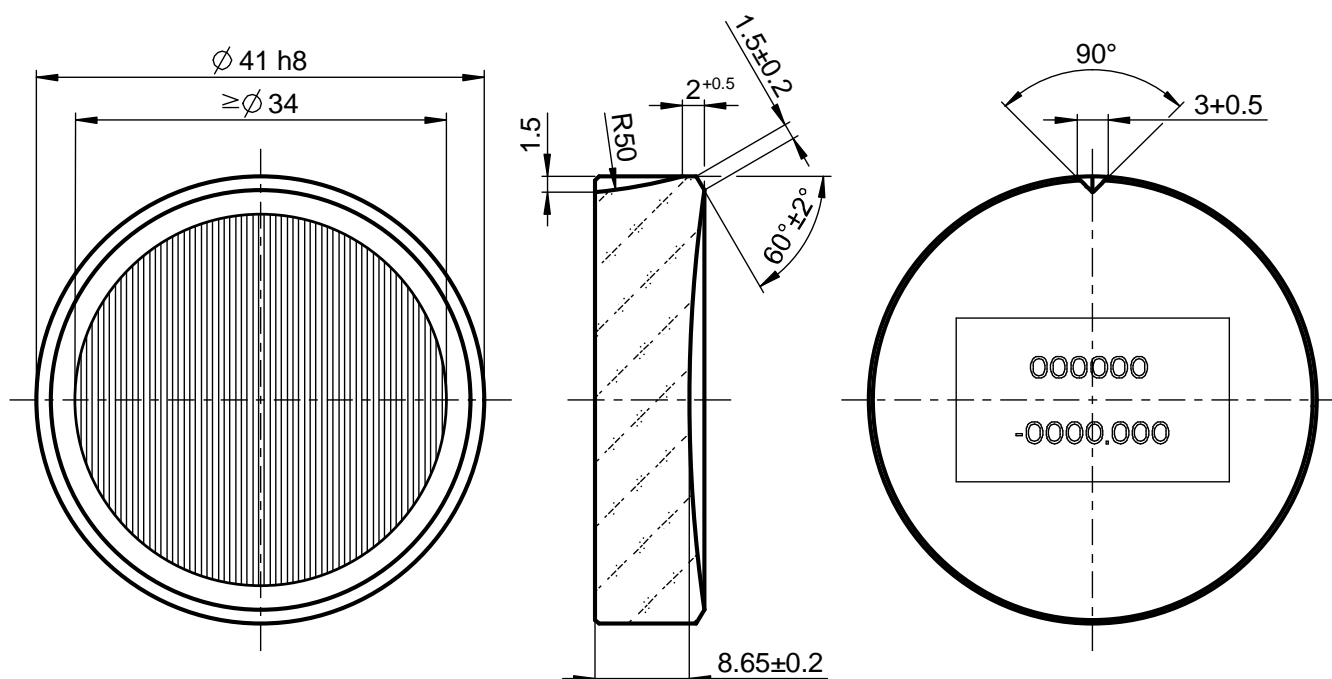
Typical relative diffraction efficiency (rDE) in first diffraction order



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	138.099 mm
Protective bevel (left surface)	0.5 mm



Application range	200 – 415 nm		200 – 800 nm	
Object distance l_A	144.7 mm		111.1 mm	
Incidence angle α	15.4°		-1.0°	
Spectrum length	25.4 mm		125.6 mm	
Reciprocal linear dispersion	8.5 nm/mm		4.8 nm/mm	
Astigmatism (point image extension)	< 0.9 mm		< 5.7 mm	
Point image resolution	< 1.4 nm		< 2.4 nm	
Relative aperture	1 : 4.3		1 : 4.1	
	$\lambda = 200 \text{ nm}$	$\lambda = 415 \text{ nm}$	$\lambda = 200 \text{ nm}$	$\lambda = 800 \text{ nm}$
Focal distance l_B	133.1 mm	—	193.1 mm	—
Diffraction angle β	-5.5°	4.9°	10.7°	43.9°
Tilt angle k of the detector array	8.4°	—	-0.4°	—

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