



## Photonics for Industrial Solutions: Holographic Gratings.

BERLINER GLAS offers a line of diffraction gratings on a holographic base. The holographic gratings are mainly used in spectroscopic applications. Compared to mechanically split gratings, holographic gratings are characterized by a higher line density. The holographic gratings are produced under clean conditions.

# Holographic Gratings.

## Specification\*:

Material	Zerodur or other low expansion material
Dimensions	up to 63.5 mm Ø
Grating constants	up to 3,600 lines per mm (3 lines per µm)
Wavelength	from 120 nm

The gratings show a precise edge form and have a high and uniform line density for optimum spectral resolution.

## Quality Assurance:

In addition to a permanent process inspection we also have a precise final inspection for which we employ sophisticated measurement devices.

## Notes:

We manufacture monolithical optics (integration of more than one optical function in one glass component) as well as multi-functional optics (integration of mechanical functions in a glass component).

## Metrology:

Wavefront	Interferometer (4-24"), Shack-Hartmann-wavefront sensor (UV, DUV, VIS, NIR)
Form deviation	3D coordinate measuring devices, caliper, CCD micrometers, Stitching-interferometer
Angle precision	Goniometer, interferometer, auto-collimators
Transmission/reflection	Spectral photometer
Surface defects	Traveling microscopes
Micro roughness	White light interferometer, atomic force microscope
Imaging performance/resolution	Computer-supported MTF measurement, microscopic image resolution
Centering	Objective metrology system, laser centering station
Additional functional measurement	Assembly-specific metrology station
Fine correcting procedure	Ionic beam process, robotic polishing, magnetorheological process

\* The following error and tolerance data indicates possible limit values. Specified and assessed according to ISO/MIL/DIN.