



Photonics for Industrial Solutions: Spherical Optic.

SwissOptic manufactures precision spherical optics (lenses, achromatic lenses, encapsulated systems, mirror) for applications in laser technology, reproduction engineering, metrology, research and other fields.

Spherical Optic.

Specifications*

Material	optical glass, CaF ₂ , MgF ₂ , quartz, glass ceramics, ceramics, borosilicate glass and filter glass
Dimensions	up to Ø 500 mm
Radii	1.2 mm up to ∞
Centering accuracy	10 "
Fitting error	$\lambda/40$ PV, measured at 632.8 nm
Surface defects	5/1 x 0.025
Center thickness tolerance	$\pm 3 \mu\text{m}$
Diameter tolerance	$\pm 3 \mu\text{m}$

Quality assurance

In addition to permanent process and production control there is a final inspection for which sophisticated measurement devices are available.

Notes

SwissOptic offers a special know-how in optical cementing, lacquered diaphragms, lacquered circumferences and special shaping of contours.

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 microscope
Micro roughness	White light interferometer, atomic force microscope
Imaging performance/resolution	Computer-supported MFT 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 indicate possible limit values. Specified and assessed according to ISO/MIL/DIN.



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