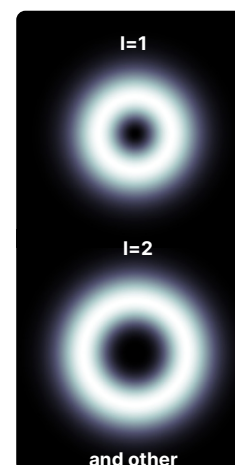
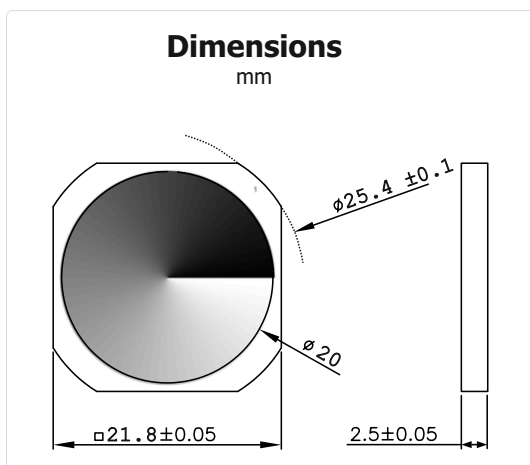
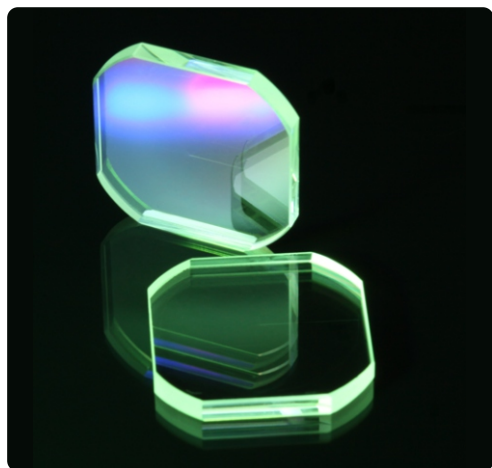


Spiral Phase plates / Vortex Lens

High-precision fused-silica phase element for generating optical vortices up to 10 mm



Specifications

Wavelengths:	193 to 3500 nm
Topological charges:	m = 1 to 8, 16, 24, 32
Number of sectors:	equal to topological charge
Number of steps:	64 per sector
Depth accuracy:	±5 nm to theoretical
Material:	fused silica
Coating:	none, custom coating options

Applications

- Superresolution microscopy (e.g. STED or MINFLUX)
- Optical trapping and manipulation
- Exoplanet imaging and vortex coronagraphy
- Free-space optical communications
- OAM (orbital angular momentum)
- Laser materials processing and 3D nanofabrication
- Quantum optics and high-dimensional entanglement
- Quantitative phase imaging and contrast microscopy
- Optical edge detection and spatial filtering

Part number information



Model	Wavelength	Sector diameter	Topological charge
V: Vortex Lens alias Spiral Phase Plate	193 to 3500 nm laser wavelength	20: 20 mm on a 21.8 x 21.8 mm substrate	l = 1 to 8, 16, 24, 32 or custom TC

Application Notes

- 1 Ensure good quality of the original laser beam. We recommend:
 - a) a Gaussian beam profile (TEM00)
 - b) a high laser wavelength stability over time and power
- 2 Mount the spiral phase plate into a XY translation stage (best way to match the optical axis of the phase plate). The element can be placed into any 1 inch lens mount
- 3 Expand the laser beam over the spiral structure of the vortex lens (<20 mm)
- 4 After the vortex lens: adjust the beam size to match your focusing optics
- 5 Avoid touching the surface of the vortex lens.
- 6 Always use laser safety goggles!