Custom Optics and Assemblies

THORLABS
Lens Systems

The TLS team specializes in the design, manufacture, and testing of challenging custom optical components and assemblies.

Operating as an R&D and production facility, Thorlabs Lens Systems (TLS) offers precision-engineered custom optics solutions. Located in Rochester, NY, the epicenter of one of the most significant and vibrant optics communities in the United States, TLS provides in-house optical and optomechanical design, rapid prototyping, glass and metal fabrication, thin-film coating, metrology, environmental testing, and full assembly for a one-stop solution. Our glass fabrication specialties include cylindrical, acylindrical, spherical, aspheric, and plano/flat optical elements.

At a Glance

- 70,000 Square Foot Factory
- 12 Lean Manufacturing Cells
- 13 CNC Grinding and Polishing Machines
- 100+ Polishing Spindles
- Class 1000 Clean Room Dedicated to Assembly
- 8 Coating Chambers
- ISO 9001:2015 Certified

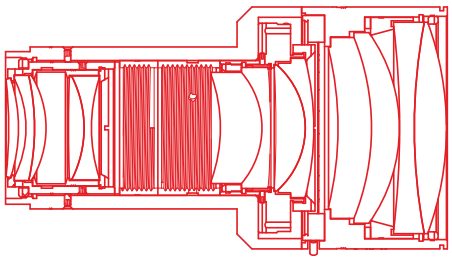
TLS has a world class design engineering department, an advanced lean manufacturing center, clean room assembly capable of complex builds, and a helpful and highly technical project support team. We continuously solve optical challenges within numerous markets, including semiconductor, industrial, imaging, life science, medical devices, automotive, aerospace, entertainment, and defense.

We can design and manufacture a wide variety of cylindrical optics.

Design Engineering

Our team has extensive experience verifying existing designs for efficient manufacturability as well as taking your product's concept and developing a clean sheet solution that meets optical, material, and structural design needs. With manufacturing cells dedicated to generating, grinding, and polishing each glass type, we are able to quickly execute to meet various customer needs.

Custom optical assemblies can be prototyped and manufactured in a fraction of the standard industry lead time.



Our expert design engineers work closely with you to design a solution that achieves the requirements of your application.

Request a quote! Contact us today at 1-973-300-3000 or techsales@thorlabs.com.

Customization Options

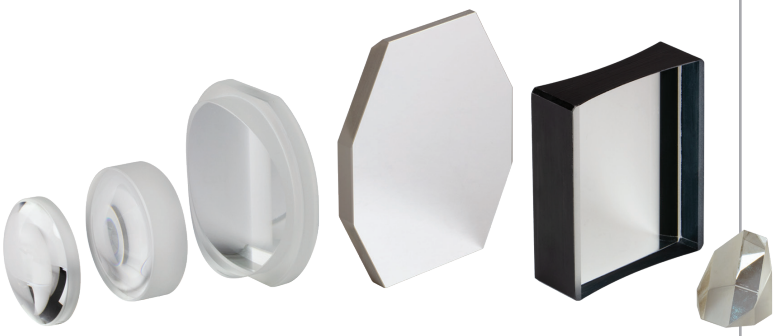
- Wide Range of Custom Sizes:
  - Spherical Lenses: 4 - 380 mm
  - Aspheric Lenses: 10 - 150 mm
  - Cylindrical Lenses: 10 - 350 mm
  - Acylindrical Lenses: 10 - 100 mm
  - Plano and Flat Optics: 4 - 380 mm
- Optical Substrates: Optical Glass, Crystals, Ceramics
- Volume Ordering: 10's to 1000's+

Dielectric Coatings

- Substrates from Ø5 mm to Ø330 mm
- Broadband Reflective or Antireflective
- V- and W-Coatings
- Bandpass and Edgepass
- Wavelength Ranges from 200 nm to 2400 nm

Metallic Coatings

- Substrates from Ø5 mm to Ø500 mm
- Gold, Silver, and Aluminum
- Wavelength Ranges from VIS to MIR



Our Rochester-based group specializes in the glass manufacturing of cylindrical, acylindrical, spherical, aspheric, and plano/flat optical elements.

Our highly experienced engineering team and assembly technicians allow us to provide solutions to the most challenging projects.

QuickTurn™ Optics

- Custom Optics and Engineered Multi-Element Assemblies in a Fraction of Normal Industry Lead Times
- Enables Our Customers to Have Shorter Product Development Cycles and Faster Times to Market
- In-House Competencies:
  - Engineering Design
  - Cleanroom Assembly
  - Thin-Film Coating
  - Metal Machining
  - Fabrication
  - Metrology
  - Environmental Testing
  - Dedicated Manufacturing Cells

Precision Assembly

- Industry-Leading Assembly and Metrology Equipment
- Active Alignment Assembly Process
- Full-Field Automatic MTF Testing
- Class 1000 Clean Room with Class 100 Laminar Flow Workspaces
- Nitrogen Chamber
- Optomechanical and Optoelectronic Assemblies
- Optical Cementing and UV Curing
- Thermal Cycling, Shock, and Vibrational Testing
- Positional Accuracy to <10 µm

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