Optimax Capabilities
Prototype Optics in One Week

Dedicated to supporting projects that require:
Small volume • High quality • Quick delivery
## Aspheres

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (mm)</td>
<td>3</td>
<td>500</td>
</tr>
<tr>
<td>Radius (mm)</td>
<td>-8 (concave)</td>
<td>∞¹</td>
</tr>
<tr>
<td>Sag (mm)</td>
<td>0</td>
<td>50¹</td>
</tr>
<tr>
<td>Departure (mm)</td>
<td>0.01</td>
<td>20</td>
</tr>
<tr>
<td>Included Angle (°)</td>
<td>0</td>
<td>120</td>
</tr>
</tbody>
</table>

¹For concave surfaces the maximum may be smaller, limited by tool clearance. Short radii have lower maximums.

## Spheres

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (mm)</td>
<td>3</td>
<td>500¹</td>
</tr>
<tr>
<td>Radius (mm)</td>
<td>±1</td>
<td>∞²</td>
</tr>
<tr>
<td>Aspect Ratio⁴</td>
<td>1:1</td>
<td>30³</td>
</tr>
<tr>
<td>Included Angle (°)</td>
<td>0</td>
<td>210²</td>
</tr>
</tbody>
</table>

¹Limited by machine envelope. ²Metrology dependent. ³Depends on metrology and finish options. ⁴Diameter divided by center thickness

## Cylinders / Freeforms

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>3</td>
<td>500</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>2</td>
<td>300</td>
</tr>
<tr>
<td>Cylinder Radius (mm)</td>
<td>10</td>
<td>∞</td>
</tr>
<tr>
<td>Concave sag to flat (mm)</td>
<td>0.100¹</td>
<td>=Radius</td>
</tr>
</tbody>
</table>

¹Flat surfaces lead to scratching problems & polisher contact issues. For both practical & economic reasons consider plano here.

## Prisms / Flat Optics

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (mm)</td>
<td>3</td>
<td>500</td>
</tr>
<tr>
<td>Thickness</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td>Aspect Ratio¹</td>
<td>1</td>
<td>50¹</td>
</tr>
</tbody>
</table>

¹Diameter divided by thickness. ¹¹Material dependent.

## Coatings

### Technologies
- Ion Beam Sputtering
- Plasma Ion Assisted Deposition
- Reactive Evaporation
- Thermal Evaporation

### Coating Types
- Antireflection
- Beam Splitters
- Polarizers
- Metal Mirrors
- Dielectric Mirrors
- Filters

Larger sizes available upon request.
Optimax manufactures the optics behind breakthrough technologies in aerospace, defense, semiconductor and medical devices. Our advanced manufacturing system allows us to test and deliver highly complex optics with the speed and performance your programs require.

We manufacture optical components, including:

- Aspheres
- Spheres
- Cylinders
- Optical Domes
- Prisms and Flats
- Freeforms

Our facility has diverse capabilities for making a variety of optical components up to 500 mm in diameter. We offer a wide range of optical materials for specialized applications from the deep ultraviolet (DUV) to the far infrared (FIR), including:

- All optical glasses and fused silica
- Optical crystals - CaF$_2$, MgF$_2$, ZnS, ZnSe, Ge, Si, Sapphire
- Optical ceramics - Spinel, AlON, Clearceram, Zerodur

Optimax incorporates a broad range of manufacturing technologies from which we can choose the best process for your requirements. Fabrication capabilities range from conventional machinery to highly deterministic CNC machining, including:

- CNC subaperture polishing for aspherical and toroidal surfaces
- Magneto Rheological Finishing (MRF)
- Optimax patented VIBE polishing

For more information visit [www.optimaxsi.com/capabilities](http://www.optimaxsi.com/capabilities)
Industries We Serve

**Medical Devices**
Optimax provides OEM optics for a femtosecond laser in an innovative 3D surgical platform.

**Aerospace**
Optimax has supplied NASA with high quality imaging lenses, for projects like Mars Rovers, designed for position sensing, mapping landforms and optical analysis.

**Semiconductor**
Optimax produces optics behind some of today’s most breakthrough technologies — including semiconductor/solid-state lighting and displays.
Optimax specializes in Asphere, Cylinder, Sphere, Plano/Flat and Freeform optics in sizes up to 500 mm. All parts are manufactured to customer-supplied specifications and include final inspection data.

Facility Size: 120,000 sq. ft.
Employees: 350+
Opticians: 200+
President: Michael Mandina
Founded: 1991

Compliance:
- ITAR (International Traffic & Arms Regulations)
- EAR (Export Administration Regulations)
- Dodd-Frank Act (conflict minerals)
- RoHS (Restriction of Hazardous Substances)
- REACH (Registration, Evaluation, Authorization and Restriction of Chemical Substances)
- MIL-I-45208A Quality System

Registered: ISO 9001:2008 certified
US Dept of State: Registered with Directorate of Defense Trade Controls
Encryption: PGP® Desktop Email
D&B #78-706-4120 (Dunn & Bradstreet)