WHO IS EDMUND OPTICS®?

The Future Depends on Optics® and the world-changing innovations they enable. Edmund Optics® (EO) has contributed to this innovation by manufacturing and supplying industries across the globe with precision optical components and subassemblies for more than 78 years.

Whether you need off-the-shelf optics for rapid prototyping or cost-effective custom components for volume production, we have the capabilities and engineering expertise to meet your specifications, timelines, and budgets. Our engineers create tailored solutions for unique optical challenges through expert application support, both build-to-print and complexly custom design, and a world-class quality and metrology program. Every step of the way, Edmund Optics® is committed to ensuring product and procedural quality.

We are a family-owned business with over 1,000 employees in 11 countries around the world, and we look forward to working with you!

Warm regards,

Marius Edmund, CMO & 1st generation owner

Contact Us for Confidential Application Support!
- Phone, Email, and Online Chat Contact Methods – Get Engineering Assistance Your Way!
- Dedicated Global Technical Support Team
- Quick Non-Disclosure Agreement (NDA) and Confidential Disclosure Agreement (CDA) Process

Leverage the Wealth of Technical Content on our Website!
- Over 132,000 Downloadable Documents and Drawings – 2D & 3D Drawings – Prescription Files – Coating Curves and More!
- Over 900 videos, Tech Tools, Application Notes, Articles, and FAQs in Our Online Knowledge Center

WHY EDMUND OPTICS®?

With over 78 years in business and 5 global manufacturing facilities, EO’s promise to customers is: MORE OPTICS, MORE TECHNOLOGY, AND MORE SERVICE.

Selection & Reliability
- Over 34,000 Unique Optical Components Available Immediate Delivery

Service
- Free Global Technical Assistance, Applications Engineering, and Design Assistance – Available in 7 Languages

Quality
- ISO 9001 Certified and ISO 10110 Compliant with MIL-SPEC Quality Programs

STANDARD

On our website you can find useful product information, shop over 34,000 standard products or request free EO print catalogs. With a >96% same day order fulfillment rate, you can rest assured that the items you need will be in stock and ready to ship same day. Additionally, our TECHSPECH® optical components are specifically designed for efficient volume manufacturing and integration, saving you time and money.

- Over 34,000 Unique Optical Components
- Available to Ship Same Day
- No Hassle 30 Day Evaluation Period and Return Policy
- Detailed Specifications, Drawings, and Prescriptions Online
- Published Price Breaks for Frequently-Ordered Quantities
- Additional OEM Volume Pricing Available

MODIFIED STANDARD

Leveraging EO’s vast inventory of optical components, we can make modifications to any of our standard optical components in 3-3 weeks. Modification services include customizing the size, shape, and edges of standard optics, improving the surface figure or accuracy of the optical surface, coating, mounting, knitting, inspecting, sorting, and more.

- Leverage EO’s Extensive Standard Inventory as Your “Semi-Finished” Starting Point
- Fast 2-3 Week Turnaround

CUSTOM

Can’t find what you need in our selection of standard products? Need an optic built to your specifications? We can make it for your EO’s expert design and manufacturing engineers are ready to develop a custom solution to both meet your needs and exceed your expectations.

- Build-to-Print Manufacturing
- Global Manufacturing Facilities
- ITAR Registered and Compliant
- Competitive Volume Pricing
- Precision Optical Components – Spherical Lenses – Aspheric Lenses – Mirrors – Windows – Filters – Prisms – Cube and Plate Beamsplitters
- Precision Multi-Element Assemblies
- State-of-the-Art Metrology from Interferometry to Spectroscopy to MTF Testing
- Environmental Testing Capabilities

FROM PROTOTYPE TO VOLUME PRODUCTION

BUILD-TO-PRINT PROCESS

1. Customer Part or Specification Sheet
2. Engineering Review and Tolerance Analysis
3. Certified & Traceable Raw Materials
4. Optical Fabrication
5. Application of Optical Coatings
6. Bonding & Assembly
7. Final Inspection, Documentation, & Packaging

For more detailed MANUFACTURING CAPABILITIES, visit www.edmundoptics.com/manufacturing
Manufacturing in US and Singapore
Standard and Custom, from Design and Prototype to Volume Production
Build-to-Print Capabilities
Over 600 Aspheric Lens Designs Available for Delivery
MRF Fine Finishing Consistently Exceeding λ/40 Surface Accuracy and State-of-the-Art Metrology

Edmund Optics® is a recognized leader in aspheric lens manufacturing, with extensive experience producing polished aspheric lenses for optical instruments, surgical devices, analytical instruments, and defense applications. Edmund Optics® high volume aspheric lens manufacturing cell operates 24 hours a day to produce thousands of precision aspheric lenses per month. Our manufacturing cells feature state-of-the-art production and metrology equipment, which complements our expert knowledge in aspheric lens design and manufacturing.

Whether your application calls for a standard component from our vast inventory, a build-to-print lens, or a fully customized design effort, our expert optical design and manufacturing engineers can develop solutions to meet your needs.

Aspheric Manufacturing Capabilities

<table>
<thead>
<tr>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter:</td>
<td>19.20mm</td>
<td>10.20mm</td>
</tr>
<tr>
<td>Diameter Tolerance:</td>
<td>±0.010mm</td>
<td>±0.0025mm</td>
</tr>
<tr>
<td>Aspheric Figure Error (P - V):</td>
<td>2μm</td>
<td>1μm</td>
</tr>
<tr>
<td>Sag:</td>
<td>35mm</td>
<td>15mm</td>
</tr>
<tr>
<td>Typical Slope Error:</td>
<td>0.5μm per 1mm window</td>
<td>0.3μm per 1mm window</td>
</tr>
<tr>
<td>Centering (Beam Deviation):</td>
<td>3μm</td>
<td>1μm</td>
</tr>
<tr>
<td>Center Thickness Tolerance:</td>
<td>±0.100mm</td>
<td>±0.050mm</td>
</tr>
<tr>
<td>Surface Roughness (Rt):</td>
<td>0.63</td>
<td>0.32</td>
</tr>
<tr>
<td>Aspheric Surface Metrology:</td>
<td>Profile Deviation (20μm)</td>
<td>Profile Deviation (20 &amp; 30μm)</td>
</tr>
</tbody>
</table>

MANUFACTURING EQUIPMENT

- S-Axis CNC Grinding Machines
- S-Axis CNC Polishing Machines
- QED MRFF Finishing Machines for Fine Finishing
- Centering Machines

METROLOGY

- Talysurf PGI 1240 Profilometers
- QED ASI™ Aspheric Stitching Interferometers
- Zygo® NewView White Light Interferometers
- OptiPros UltraSurf 4K 100 Non-Contact Profilometers
- TRIOPTICS Opticentric® Centration Measurement Machines
- Zeiss Contura G2 CMMs
- Design-Specific Computer Generated Holograms (CGH)
- LUPHOScan 260 HD

For more information on ASPHERIC LENSES, visit www.edmundoptics.com/capabilities/aspheric-manufacturing
**SPHERICAL LENSES**

- Prototype Through High Volume Production Capabilities
- Large Variety of SCHOTT, Ohara, and CDGM Glass Types in Stock
- Build-to-Print Capabilities
- Standard and Custom Coating Options Available
- MRF Fine Finishing Consistently Exceeding 1/40 Surface Accuracy

**PRISMS**

- Standard or Custom, from Design and Prototype to Volume Production
- Wide Assortment of Prism Shapes in Stock
- Build-to-Print Capabilities
- Available in Many Glass Types with a Variety of Standard and Custom Coatings

**DID YOU KNOW?**

Edmund Optics® is a premier manufacturer of cube and plate beamsplitters, producing millions of precision quality lenses every year in our Japan and Singapore facilities.

**BEAMSPLITTERS**

- Wide Variety of Beamsplitter Types Including Polarizing, Non-Polarizing, and Laser Line
- Customized Solutions for Prototype to Volume Production
- Design & Application Expertise for Complex Coating and Geometry Needs

Edmund Optics® is a premium manufacturer of cube and plate beamsplitters for applications ranging from the ultraviolet (UV) to the infrared (IR) wavelength spectra. Our expert optical design and manufacturing engineers develop customized solutions for both prototyping and volume production, supporting you throughout your entire product development process. World-class metrology ensures that all beamsplitters meet your application requirements. What can we make for you?

Our beamsplitters are manufactured from a wide variety of SCHOTT, Ohara, and CDGM materials. Whether you require several beamsplitters for prototyping, a few dozen for pre-production, or large quantities for mass production, we can develop a solution tailored for your application. Some values may depend on material and the other required specifications.

**DID YOU KNOW?**

Edmund Optics® has 24 hour engineering support to help you choose the best beamsplitter for your application.

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**Spherical Manufacturing Capabilities**

<table>
<thead>
<tr>
<th>Capability</th>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>4 - 200mm</td>
<td>4 - 200mm</td>
<td>4 - 200mm</td>
</tr>
<tr>
<td>Diameter Tolerance</td>
<td>±0.010mm</td>
<td>±0.010mm</td>
<td>±0.010mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>±0.010mm</td>
<td>±0.010mm</td>
<td>±0.010mm</td>
</tr>
<tr>
<td>Size Height</td>
<td>±0.013mm</td>
<td>±0.013mm</td>
<td>±0.013mm</td>
</tr>
<tr>
<td>Aperture</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Radius</td>
<td>±3%</td>
<td>±3%</td>
<td>±3%</td>
</tr>
<tr>
<td>Power (P - V)</td>
<td>3:1</td>
<td>3:1</td>
<td>±/2</td>
</tr>
<tr>
<td>Irregularity (P - V)</td>
<td>±/4</td>
<td>±/4</td>
<td>±/8</td>
</tr>
<tr>
<td>Centering (Base Deviation)</td>
<td>±0.001mm</td>
<td>±0.001mm</td>
<td>±0.001mm</td>
</tr>
<tr>
<td>Bevel (Base Width: 45°):</td>
<td>±0.001mm</td>
<td>±0.001mm</td>
<td>±0.001mm</td>
</tr>
<tr>
<td>Surface Quality</td>
<td>85 - 90%</td>
<td>90 - 95%</td>
<td>95 - 98%</td>
</tr>
</tbody>
</table>

**Prism Manufacturing Capabilities**

<table>
<thead>
<tr>
<th>Capability</th>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>3 - 200mm</td>
<td>2 - 150mm</td>
<td>2 - 150mm</td>
</tr>
<tr>
<td>Diameter Tolerance</td>
<td>±0.13mm</td>
<td>±0.13mm</td>
<td>±0.13mm</td>
</tr>
<tr>
<td>Height Height</td>
<td>±0.023mm</td>
<td>±0.013mm</td>
<td>±0.013mm</td>
</tr>
<tr>
<td>Irregularity</td>
<td>±/4</td>
<td>±/4</td>
<td>±/8</td>
</tr>
<tr>
<td>Prism Physical Angle Tolerance</td>
<td>±3°</td>
<td>±3°</td>
<td>±3°</td>
</tr>
<tr>
<td>Prism Plane Deviation</td>
<td>±0.001mm</td>
<td>±0.001mm</td>
<td>±0.001mm</td>
</tr>
<tr>
<td>Max Bevel (Base Width: 45°):</td>
<td>±0.5mm</td>
<td>±0.5mm</td>
<td>±0.5mm</td>
</tr>
<tr>
<td>Surface Quality</td>
<td>85 - 95%</td>
<td>90 - 96%</td>
<td>96 - 98%</td>
</tr>
</tbody>
</table>

**Beam splitter Manufacturing Capabilities**

- Wide Variety of Beamsplitter Types Including Polarizing, Non-Polarizing, and Laser Line
- Design & Application Expertise for Complex Coating and Geometry Needs

Edmund Optics® is a premium manufacturer of cube and plate beamsplitters for applications ranging from the ultraviolet (UV) to the infrared (IR) wavelength spectra. Our expert optical design and manufacturing engineers develop customized solutions for both prototyping and volume production, supporting you throughout your entire product development process. World-class metrology ensures that all beamsplitters meet your application requirements. What can we make for you?

Our beamsplitters are manufactured from a wide variety of SCHOTT, Ohara, and CDGM materials. Whether you require several beamsplitters for prototyping, a few dozen for pre-production, or large quantities for mass production, we can develop a solution tailored for your application. Some values may depend on material and the other required specifications.

**DID YOU KNOW?**

Edmund Optics® has 24 hour engineering support to help you choose the best beamsplitter for your application.

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**SPHERICAL LENSES and PRISMS**

**DID YOU KNOW?**

Edmund Optics® is a premier manufacturer of cube and plate beamsplitters, producing millions of precision quality lenses every year in our Japan and Singapore facilities.

**MANUFACTURING EQUIPMENT**

- Conventional and High-Speed Grinding Machines
- Conventional and High-Precision Polishing Machines
- Slicing Machines
- OED MRF Machines for Fine Finishing
- Coating Chambers, including ion Beam Sputtering (IBS)
- DMC MOR® for Truncation and Shaping

**METROLOGY**

- OGP Smartscopes
- Nikon 6D Auto Collimators
- Zygo® VeriFire® High Resolution Interferometers
- Zygo® NewView White Light Interferometers
- Zygo® GPI 4” Aperture Vertical & Horizontal Interferometers
- Zeiss Contura G2 CMMs
- Olympus MX51 Microscopes
- Spectrophotometers
- Spectrometers

For more information on BEAMSPLITTERS, visit www.edmundoptics.com/capabilities/beamsplitter-manufacturing
**Optical Filter Glass Manufacturing Capabilities**

<table>
<thead>
<tr>
<th>Optical Filter Glass Manufacturing Capabilities</th>
<th>Commercial</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions:</td>
<td>5 - 50mm</td>
<td>3 - 140mm</td>
</tr>
<tr>
<td>Dimensional Tolerance:</td>
<td>±0.25mm</td>
<td>±0.35mm</td>
</tr>
<tr>
<td>Thickness:</td>
<td>1.0, 2, or 3mm</td>
<td>0.5 - 0.8mm</td>
</tr>
<tr>
<td>Dimensional Tolerance:</td>
<td>±0.3mm</td>
<td>±0.25mm</td>
</tr>
<tr>
<td>Surface Finish:</td>
<td>P2</td>
<td>P2, P3</td>
</tr>
<tr>
<td>Surface Quality (Turbid Opt):</td>
<td>80-50</td>
<td>20-30</td>
</tr>
<tr>
<td>Polishing:</td>
<td>3.0L</td>
<td>1/4</td>
</tr>
<tr>
<td>Neutral Density:</td>
<td>0.15 - 5.0D00</td>
<td></td>
</tr>
<tr>
<td>Geometry:</td>
<td>Round, Elliptical, and Rectangular</td>
<td></td>
</tr>
<tr>
<td>Filter Glass Types:</td>
<td>Lenses, Shells, Aspheres, High Precision, and Coatings of Multiple Glasses</td>
<td></td>
</tr>
</tbody>
</table>

* Specifications per DIN ISO 10110. Manufacturing specifications per MIL-PRF-13830B also available.

**MIRRORS**

- Wide Variety of Metallic and Dielectric Coatings
- High Laser-Induced Damage Threshold (LIDT) and Ultra-High Reflectivity Options
- Standard or Custom, from Design and Prototype to Volume Production
- Superpolishing Capabilities for Surface Roughness Down to 0.5 Å

**Diamond Turning Capabilities**

<table>
<thead>
<tr>
<th>Diamond Turning Capabilities</th>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive Index (F - V at 632nm):</td>
<td>1.52 - 1.79</td>
<td>1.52 - 1.79</td>
<td></td>
</tr>
<tr>
<td>Surface Quality:</td>
<td>80-50</td>
<td>60-40</td>
<td>40-30</td>
</tr>
<tr>
<td>Crystalline Materials and Plastics:</td>
<td>&lt;50Å for Diameters 0.15 - 200mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometries:</td>
<td>Off-Axis Parabolic, Elliptical, Toroidal Mirrors, Aspheric and Spherical Lenses, and Flatwork</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angle:</td>
<td>8 - 19°</td>
<td>8 - 19°</td>
<td></td>
</tr>
<tr>
<td>Diameter (Off-Axis):</td>
<td>2 - 254mm</td>
<td>2 - 254mm</td>
<td></td>
</tr>
<tr>
<td>Diameter (On-Axis):</td>
<td>8 - 254mm</td>
<td>8 - 254mm</td>
<td></td>
</tr>
<tr>
<td>Coatings:</td>
<td>Diamond-coated, Aluminum, UV Enhanced Aluminum, Protected Gold, Anti-Reflection, and Custom Laser-Induced Damage Thresholds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials:</td>
<td>Metal (Aluminum, Copper, Iron, and Nickel-Plated Surface), Crystalline Materials (Hermannite, Sillenite, Calcium Fluorite, and Zinc Selenide), and Plastics (Mirrors and Lenses)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DIAMOND TURNING**

- Experts with 10+ Years’ Experience
- Metals, Crystalline Materials, and Plastics
- Off-Axis Parabolic, Elliptical, and Toroidal Mirrors, Aspheric and Spherical Lenses, and Flatwork
- Build-to-Print Manufacturing and Full-Custom Design
- Wide Range of Coating Options

**DIAMOND TURNING**

- Did You Know? Edmund Optics® manufactures diamond turned metal mirrors as well as polished glass mirrors

**MIRRORS**

- Did You Know? Edmund Optics® manufactures custom polarizers out of over 60 SCHOTT Optical Filter Glass types

**POLYMER POLARIZERS**

- Wide Range of Polymer Polarizers for Visible Applications
- Custom Sizes and Shapes for Linear and Circular Polarizers, and Retarders
- Lamination on Glass or Plastic Substrates for Improved Stability
- No Minimum Order Quantities and Short Lead Times

**DIAMOND TURNING**

- Did You Know? Edmund Optics® manufactures diamond turned metal mirrors as well as polished glass mirrors

**POLYMER POLARIZERS**

- Did You Know? Edmund Optics® manufactures custom polarizers and retarders at ITOS, our state-of-the-art German manufacturing site

**Linear Polarizer Manufacturing Capabilities**

<table>
<thead>
<tr>
<th>Linear Polarizer Manufacturing Capabilities</th>
<th>Commercial</th>
<th>Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications:</td>
<td>9.00 - 3.00µm</td>
<td></td>
</tr>
<tr>
<td>Linear Polarizing Film:</td>
<td>9.00 - 3.00µm</td>
<td></td>
</tr>
<tr>
<td>PMMA Laminated:</td>
<td>9.00 - 3.00µm</td>
<td></td>
</tr>
<tr>
<td>Glass Laminated:</td>
<td>9.00 - 3.00µm</td>
<td></td>
</tr>
<tr>
<td>Wire-Grid Polarizing Film:</td>
<td>9.00 - 3.00µm</td>
<td></td>
</tr>
<tr>
<td>Dimensions:</td>
<td>3 x 3mm</td>
<td>3 x 3mm</td>
</tr>
<tr>
<td>Dimensional Tolerance:</td>
<td>±25µm</td>
<td>±25µm</td>
</tr>
<tr>
<td>Thickness:</td>
<td>0.18 - 0.75mm</td>
<td></td>
</tr>
<tr>
<td>Transmission:</td>
<td>90 - 70%</td>
<td></td>
</tr>
<tr>
<td>Extinction Ratio:</td>
<td>1.0 x 3.00µm</td>
<td></td>
</tr>
</tbody>
</table>

* Specifications for linear polarizers and retarders, visit www.edmundoptics.com/polarizers/polarizers
**OPTICAL COATINGS**

- Internal Volume Coating Capabilities from 257nm to >40µm
- Well-Established Partners Covering Selective UV Ranges From 13.5nm to 257nm and IR Coatings from 3µm to 12µm
- Custom Coating Design from UV to LWIR Spectral Ranges
- Anti-Reflective, Highly-Reflective, Filter, Polarizing, Beamsplitter, and Metallic Designs
- High Laser-Induced Damage Threshold (LIDT) and Ultrafast Laser Coatings

Optical coatings are a critical portion of the finished optical component or assembly. Accurate optical coating design and production can mean the difference between the component failing in the field or lasting for the intended lifetime of the project. Edmund Optics® has extensive coating capabilities and expertise in producing coatings for advanced diagnostic applications, harsh environment imaging assemblies, and applications throughout the ultraviolet (UV), visible (VIS), and infrared (IR) spectral regions. All optics are meticulously cleaned, coated, and inspected in a clean room environment, and subjected to the environmental, thermal, and durability requirements specified by our customers.

**NEBULAR™ TECHNOLOGY**

- Nano-Structured Anti-Reflective Surfaces for High-Power Laser Applications
- Greater than 99.8% Transmission and Near-Bulk Laser-Induced Damage Threshold (LIDT)
- Surfaces can be Tuned for Wavelengths from 340 - 1150nm

**DID YOU KNOW?**

Edmund Optics® has global state-of-the-art optical coating facilities in the US, Japan, and Singapore

**MANUFACTURING EQUIPMENT**

- E-Beam Deposition
- Ion-Assisted Deposition
- Ion Beam Sputtering (IBS)
- Thermal Evaporation
- Hard Coatings for Stringent Environments and Durability
- Automated Ultrasonic Cleaning

**METROLOGY**

- Spectrophotometers - Agilent Cary, Hitachi, PerkinElmer
- LAMBDA, PerkinElmer FTIR, and Varian
- DIC Microscopes
- In-House Laser-Induced Damage Threshold Testing (LIDT)
- White Light Interferometers for Group Delay Dispersion Testing
- Olympus MX51 Microscopes
- Surface Roughness Metrology
- Environmental Test Chambers: Temperature, Humidity, Salt Spray

**IMAGING and LASER OPTICS ASSEMBLIES**

- Full Custom Lens Design for Your Specific Needs
- Designs for Newest Technology Trends Including Stability Ruggedized Lenses, Integrated Liquid Lenses, and Ultra-High Resolutions (100+ MP)
- M12, C-Mount, Factory Automation, Telecentric Lenses, and More
- Global In-Region Engineering Support & Service
- Volume Manufacturing & Designs Optimized for Integration

**IMAGING ASSEMBLIES**

<table>
<thead>
<tr>
<th>Imaging Lens Assembly Capabilities</th>
<th>Fixed Focal Length Lenses</th>
<th>Telemetric Measuring Lenses</th>
<th>Fixed Magnification Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor Sizes:</td>
<td>Up to 45mm</td>
<td>Up to 43mm</td>
<td>Up to 16mm</td>
</tr>
<tr>
<td>Resolution:</td>
<td>Up to 120 Megapixels</td>
<td>Up to 132 Megapixels</td>
<td>Up to Full Line Scan</td>
</tr>
<tr>
<td>Field of View:</td>
<td>&gt;90°</td>
<td>Up to 540mm</td>
<td>0.2mm - 180mm</td>
</tr>
<tr>
<td>Lens Mounts:</td>
<td>C-Mount, TS Mount, F-Mount, 16x</td>
<td>C-Mount, F-Mount, MA2</td>
<td>C-Mount, F-Mount, MA2, MA2</td>
</tr>
</tbody>
</table>

**LASER OPTICS ASSEMBLIES**

- Beam Expanders, Focusing Objectives, and Other Laser Optics Assemblies
- Laser Line and Broadband Coatings from 257nm to 3µm
- Low Group Delay Dispersion (GDD) Designs for Ultrafast Systems, Including Reflective Designs
- High-Power Assemblies with No Issues from Internally-Focusing Ghost Images
- Standard, Modified Standard, or Custom, from Design and Prototype to Volume Production

**BEAM EXPANDER Capabilities**

- Expansion Power: 10 - 20X
- Design Wavelengths: Common Laser Lines Including Nd:YAG, Nd:Yb, Trampolines, and InGaAs-Doped Fiber Lasers, Broadband
- Mounts: C-Mount, M22, MA2
- Focusing Mechanism Available: Sliding Focus, Rotating Focus, Fixed Focus
- Custom Design Capabilities: Yes, Contact Us Today!

**DID YOU KNOW?**

Edmund Optics® does full assembly development from modeling physical optics propagation, to designing lens elements, to coating, to assembly, to testing
MODIFYING STANDARD COMPONENTS

CUSTOMIZED OPTICS IN 2-3 WEEKS

When developing a product, being able to quickly and easily iterate your prototypes is critical.

In addition to our immediately available inventory of over 34,000 standard optics, quick “modified standard” customizations are available in just 2-3 weeks, simplifying the path to production.

Our modification services include: customizing the size, shape, and edges of standard optics; improving the surface figure or accuracy of the optical surface; sorting; mounting; lidding; inspection; and more! Find an achromat that has everything you need, but it’s just a little too big? We can edge it down for you. What about that mirror that you need in a non-standard size? We can cut it for you. Looking for a customized inspection report? We can measure it for you.

Modify for 2-3 weeks or less.

STANDARD OPTICS

- Diameter Reduction
- Edge Blackening
- Diameter Reduction
- Edge Blackening

DID YOU KNOW?

You can combine multiple modification services on the same optical component, such as resizing and coating, to reduce overall lead time and cost.

FULL CUSTOM FAST!

If off-the-shelf or modified standard components do not meet your prototyping needs, you can utilize our fully-custom prototyping capabilities to obtain custom glass components in a matter of days to a maximum of a few weeks.

Edmund Optics® maintains an inventory of over 70 of the most common optical glass types at all manufacturing sites. Using these materials reduces lead time of raw materials and facilitates quick prototyping.

13 CREATIVE "HACKS" FOR RAPID PROTOTYPING

While every application has its own timelines, credentials, and specifications, there are several techniques that may be commonly utilized to decrease the amount of time required for prototyping. Below are several of the 13 creative “hacks” that can be used to quickly and efficiently make prototypes of optical sub-systems:

#1 – Go monochromatic to reduce element count and complexity
#2 – Approximate custom “best-form” elements with available standard singlets
#3 – Flip imaging lenses to use them as objectives
#4 – Customize compound assemblies with standard optics
#5 – Utilize inner diameter threaded prototyping tubes

WHAT CAN WE MAKE FOR YOU? Learn more at www.edmundoptics.com/modify

FOR FULL GLASS and ZEMAX GLASS CATALOGS, visit www.edmundoptics.com/preferred-glass
Edmund Optics® manufactures and supplies customers around the globe with millions of precision optical components and optical assemblies. Whether standard, modified standard, or custom, we have the expertise and resources necessary to manufacture optical products based on your project’s specific requirements. Our dedicated and skilled team members ensure that you receive the optimal solution for your application, while our quality assurance teams guarantee the best final products.

Additional Requirements? We’ve Got You Covered!
- Highly Flexible Volume Order Servicing
- Support Blanket Orders and Other Stocking Agreements
- Competitive Volume Discounts
- Well Versed in Configuration Control, Change Control, and Copy Exact Requirements
- Seamless Federal Acquisition Regulation (FAR), Defense Federal Acquisition Regulation (DFAR), Quality Assurance Provision (QAP), and Testing Requirement Flow-Downs
- ITAR Registered and Compliant; Defense Priorities and Allocations System (DPAS) Servicing and Support
- Global Supply Chain Network with Global Warehousing – Quickly and Easily Supporting Your Projects Wherever You Prefer
- Comprehensive First Article Inspection Reports (FAIR) for Product Qualification

DEDICATED SUPPORT TEAMS FOR YOUR NEEDS

All customers with volume orders receive a dedicated support team to ensure their products are manufactured and specified to meet their needs, deadlines are kept, and a specified point of contact for general or technical questions is assigned. The support team consists of a project manager, solutions engineer, OEM sales representative, and regional sales manager.

SAMPLE DEDICATED SUPPORT TEAM

**Project Manager**
The Project Manager coordinates all internal activities to meet project cost, schedule, and performance requirements for optical assemmbles.

**Solutions Engineer**
Your technical resource for your custom optics requirements provides suggestions on cost effective and manufacturable optics specifications.

**OEM Sales Rep**
Your dedicated sales representative assists with volume price quotes, order placement, and delivery status to meet your project deadlines.

**Regional Sales Manager**
Your dedicated account manager provides on-site support and capability knowledge to develop and grow our relationship with you.

For more information on VOLUME and OEM SERVICES, visit www.edmundoptics.com/volume

LAUNCH AND PRODUCTION

6 WEEK VOLUME PRODUCTION TIME

Edmund Optics® is proud to offer industry-leading 6 week production times for volume orders of custom optical components at no premium!

In addition to our quality and customer service, we pride ourselves on speed and accuracy. We understand that ever-shrinking development and product cycles make short lead times crucial to many of our customers. For this reason, we offer quick turnaround solutions to get you the optics you need within your specified timelines.

DID YOU KNOW?

Edmund Optics® manufactures over 2 million optical components and 170,000 optical assemblies every year at our global facilities.

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ENGAGE WITH US EARLY AND OFTEN

Speaking with our experts during your proof-of-concept phase can help significantly expedite custom manufacturing. We can help provide feedback on specifications to choose for your components and review your design for manufacturability, while assisting with possible cost reduction measures once your project moves from prototype to production.

BEHIND THE SCENES IN OPTICAL MANUFACTURING

Watch the following two videos to see the manufacturing processes of both aspheric lenses and imaging lens assemblies in Edmund Optics’ global manufacturing facilities.

**How an Aspheric Lens is Made**
www.edmundoptics.com/making-an-asphere

**How an EO Imaging Lens is Made**
www.edmundoptics.com/making-an-imaging-lens

For a FREE QUOTE, contact us at www.edmundoptics.com/contact-support
**DESIGN SERVICES**

- Over 30 Years of Experience Designing Optical Components and Optomechanical Assemblies
- Analysis Expertise Spans Zemax, Code V®, FRED®, Solidworks, Matlab®, Abaqus, and More
- Regional Engineering Support & Service Across the Globe
- Designs Optimized for Integration and High Production Yields

Edmund Optics® offers a variety of design services in order to meet the specialized needs of our customers. We excel at designing optical and optomechanical systems from components to assemblies and imaging to laser optics, spanning from the UV to IR. Our design engineers are well versed in tolerancing and complex optical and mechanical analysis.

Whether standard or custom, we have found that approaching the design and proof-of-concept stage with an eye towards manufacturability at the outset yields the fastest, most affordable, and most effective results. EO engineers are prepared to take your project from design to prototype to volume production.

**DID YOU KNOW?**
EO has over 150 engineers on staff, located at each of our global sales offices and manufacturing facilities, as well as our two dedicated design service locations in Arizona and China.

**TIPS FOR DESIGNING MANUFACTURABLE LENSES AND ASSEMBLIES**

A successful lens design succeeds not only in the creation of a working model but also in manufacturing, assembly, testing, and implementation.

Visit this online resource to learn the nuances of designing manufacturable lens assemblies including:
- Geometry Considerations
- Tolerancing Methods and Assumptions
- Modeling Surface Irregularity
- Stack-ups of Assembled Systems

[www.edmundoptics.com/manufacturable-lenses](http://www.edmundoptics.com/manufacturable-lenses)

**QUALITY AND METROLOGY**

- Robust Global Compliance Systems
- Thorough Preventative and Corrective Action Procedures
- Commitment to Continuous Improvement
- ISO 9001:2015 Certified and ITAR Compliant

Edmund Optics® is committed to ensuring product and procedural quality. Guided by ISO 9001 certification standards, we employ a strict global quality program that is monitored by experienced staff and supported by the most innovative optical testing available. EO manufactured products undergo rigorous and thorough testing as part of our quality program and in compliance with EO’s global quality procedures, as well as a host of ISO and mil-spec standards.

Additionally, Edmund Optics® has documented plans for improving resource efficiency and waste reduction through the Environmental Management System (EMS) ISO 14001. We hope our initiative will develop and sustain both supply and demand for greener goods, services and products, and reduce waste both in and outside of the company.

**STATE-OF-THE-ART METROLOGY**

**OPTICAL METROLOGY CAPABILITIES**
- Interferometers, Profilometers, Coordinate Measurement Machines (CMM), and a host of Optical and Mechanical Metrology
- Radiometrics: Stray Light, Veiling Glare, and More
- Semi-Automated MTF Measurement Equipment
- UV/VIS/NIR/IR Coating Characterization through Varian and PerkinElmer Spectrophotometers and Fourier Transform Infrared (FTIR) Spectroscopy
- Laser-Induced Damage Threshold (LIDT) and Beam Quality (M²) Measurement
- Environmental Testing Equipment such as Vibration, Humidity, and Immersion
- Over 50 Employees in Quality Control Functions Across the Company
- Product Testing and Certification Reports Available Upon Request

**IN-HOUSE OPTICAL ASSEMBLY TESTING**
- MTF
- Stray Light
- Telecentricity
- Wavefront Distortion
- White Light Interferometer
- Mechanical Profilometry
- Much More

**EDMUND OPTICS® IS COMPLIANT WITH:**
- ISO 9001:2015
- ISO 14001
- ANSI / ASME Y14.5
- ISO 10110
- MIL-C-48497A
- MIL-STD-810
- MIL-PRF-13830B
- MIL-C-675C

**STATE-OF-THE-ART METROLOGY**

For more DESIGN ASSISTANCE, visit [www.edmundoptics.com/design](http://www.edmundoptics.com/design)

**QED® ASI™ Aspheric Stitching Interferometer**
**Trioptics ImageMaster® MTF Test Station**
**Zygo® Interferometer**
**Laser-Induced Damage Threshold (LIDT) Testing**

To learn more about our STATE-OF-THE-ART METROLOGY, visit [www.edmundoptics.com/metrology](http://www.edmundoptics.com/metrology)

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For more DESIGN ASSISTANCE, visit [www.edmundoptics.com/design](http://www.edmundoptics.com/design)
Using **off-the-shelf optics** in your next design project comes with many advantages.

If budget or time restrictions eliminate the possibility of utilizing custom optics in your application, standard optics are readily available and easily implemented to fit your design requirements. Here are some quick tips to help make designing with off-the-shelf optics easy!

### 5 TIPS FOR DESIGNING WITH OFF-THE-SHELF OPTICS

1. **SIMPLIFY**

   Start on paper with a paraxial design and break it into subsystems of finite and infinite conjugate optical groups. Determine the focal lengths you want for each group before trying to optimize in a code such as Zemax, Code V®, or another ray tracing software of your choice. Once you have the focal lengths required, you can start using paraxial equations to help choose the off-the-shelf lenses that provide the required focal lengths. Your preferred ray tracing code should have a selection of off-the-shelf lenses built into it (Figure 1) that you can use to model the selected lenses and optimize your spacing. If not, the lenses can typically be input into the software with the information provided by the supplier. All EO TECHSPEC® components are available in most design codes and Zemax files are available on our website at [www.edmundoptics.com/zemax](http://www.edmundoptics.com/zemax).

2. **GO MONOCHROMATIC**

   If at all possible, use a monochromatic source such as an LED or Laser or use an optical filter to make your system monochromatic. Using a monochromatic or narrow band light will greatly reduce the complexity of the design. As a rough guideline, reducing the source waveband to less than 50nm will generally make using singlets possible in your design. Chromatic aberrations cause difficulty when composing a design, so your options will be simplified if a broadband light source is not required.

3. **UTILIZE OFF-THE-SHELF SUBSYSTEMS**

   By using off-the-shelf components such as achromatic doublets, microscope objectives, machine vision lenses, multi-element relays, or other subsystems, you can often achieve your application’s exact correction requirements for factors such as color, field angles, and large apertures. In many cases, these subsystems can even be modeled in your code if the prescriptions are provided by the supplier (Figure 2). Even if the prescription is not available, a paraxial surface can be used to approximate the subsystem.

4. **CONSIDER MOUNTING OPTIONS**

   Whether prototyping or trying to save the time and expense associated with purchasing custom housings, consider off-the-shelf mounting options. For example, the TECHSPEC® Optical Cage System allows you to easily assemble your optical components and provide plenty of freedom for making spacing adjustments. Most off-the-shelf cage systems allow for mounting common optical component sizes, as well as ways for mounting microscope objectives, C-mount camera lenses, and other sub-components (Figure 3).

5. **USE COMPONENTS WHERE THEY WORK**

   Off-the-shelf lenses such as Plano-Convex (PCX), Plano-Concave (PCV), Double-Convex (DCX), Double-Concave (DCV), and Achromats are optimized for small fields and small apertures. These components work best when integrated into systems that do not have very steep ray angles. For example, when designing a high magnification relay, use a complex multi-element subsystem for the high numerical aperture side of the relay and an achromat for the low numerical aperture side. For instance, a 15X system consisting of a 20X infinite conjugate objective on the object side and a 150mm focal length achromatic lens on the image side, will provide a very well-corrected system.

---

For more **OPTICS APPLICATION NOTES**, visit [www.edmundoptics.com/appnotes](http://www.edmundoptics.com/appnotes)
### ASPHERIC LENSES

**Aspheric Manufacturing Capabilities**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Commercial</th>
<th>Precision</th>
<th>High Precision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>2 - 100mm</td>
<td>10 - 200mm</td>
<td>50 - 500mm</td>
</tr>
<tr>
<td>Diameter Tolerance</td>
<td>±0.150mm</td>
<td>±0.15mm</td>
<td>±0.15mm</td>
</tr>
<tr>
<td>Aspheric Figure Error</td>
<td>±0.0.150mm</td>
<td>±0.030</td>
<td>±0.010</td>
</tr>
<tr>
<td>Seg</td>
<td>1mm</td>
<td>1mm</td>
<td>0.1mm</td>
</tr>
<tr>
<td>Typical Image Error</td>
<td>15µm</td>
<td>15µm</td>
<td>0.1mm</td>
</tr>
<tr>
<td>Contouring (Beam Deviation)</td>
<td>3 arcmin</td>
<td>1 arcmin</td>
<td>1 arcmin</td>
</tr>
<tr>
<td>Center Thickness Tolerance</td>
<td>±0.150µm</td>
<td>±0.150µm</td>
<td>±0.150µm</td>
</tr>
<tr>
<td>Surface Quality (Scratch)</td>
<td>50/50</td>
<td>40/30</td>
<td>10/5</td>
</tr>
<tr>
<td>Aspheric Surface Metrology</td>
<td>Proficiency (CR)</td>
<td>Proficiency (3 x D)</td>
<td>Interoperability</td>
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### SPHERICAL LENSES

**Spherical Manufacturing Capabilities**

<table>
<thead>
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<th>Dimension</th>
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<th>Precision</th>
<th>High Precision</th>
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</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>4 - 200mm</td>
<td>10 - 200mm</td>
<td>50 - 500mm</td>
</tr>
<tr>
<td>Diameter Tolerance</td>
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<td>±0.030</td>
<td>±0.030</td>
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<tr>
<td>Seg</td>
<td>1mm</td>
<td>1mm</td>
<td>0.1mm</td>
</tr>
<tr>
<td>Typical Image Error</td>
<td>15µm</td>
<td>15µm</td>
<td>0.1mm</td>
</tr>
<tr>
<td>Contouring (Beam Deviation)</td>
<td>3 arcmin</td>
<td>1 arcmin</td>
<td>1 arcmin</td>
</tr>
<tr>
<td>Deviation (Per 1000 Angstrom)</td>
<td>&lt;0.030µm</td>
<td>&lt;0.050µm</td>
<td>&lt;0.100µm</td>
</tr>
<tr>
<td>Surface Quality (Scratch)</td>
<td>50/50</td>
<td>40/30</td>
<td>10/5</td>
</tr>
<tr>
<td>Spherical Surface Metrology</td>
<td>Proficiency</td>
<td>Proficiency</td>
<td>Interoperability</td>
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</table>

### PRISMS

**Prism Manufacturing Capabilities**

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<th>Dimension</th>
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<tr>
<td>Dimensions (Length)</td>
<td>2 - 100mm</td>
<td>5 - 100mm</td>
<td>2 - 75mm</td>
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<td>Dimensional Tolerance</td>
<td>±0.030mm</td>
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<td>V-Height</td>
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<td>±0.250µm</td>
<td>±0.250µm</td>
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<td>Irregularity</td>
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<td>±1.0°</td>
<td>±1.0°</td>
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<td>Prism Physical Angle Tolerance</td>
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<td>±5 arcmin</td>
<td>±5 arcmin</td>
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<tr>
<td>Prism Prismatic Deviation</td>
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<td>±5 arcmin</td>
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<td>Max Error (Face Width 45°)</td>
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<td>±0.100µm</td>
<td>±0.100µm</td>
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<tr>
<td>Skew Error (Face Width 45°)</td>
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<td>±0.100µm</td>
<td>±0.100µm</td>
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<tr>
<td>Pyramid Sides Height</td>
<td>3.0µm</td>
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<td>3.0µm</td>
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<tr>
<td>Pyramid Surface Metrology</td>
<td>±3 arcmin</td>
<td>±5 arcmin</td>
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### BEAMSplitters

**Beam Splitter Manufacturing Capabilities**

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<th>Dimension</th>
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<td>±0.150mm</td>
<td>±0.150mm</td>
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<tr>
<td>Dimensions (Width)</td>
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<td>±0.250µm</td>
<td>±0.250µm</td>
</tr>
<tr>
<td>Dimensions (Height)</td>
<td>±0.150µm</td>
<td>±0.150µm</td>
<td>±0.150µm</td>
</tr>
<tr>
<td>Dimensions (Beam Deviation)</td>
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<td>±0.15°</td>
<td>±0.15°</td>
</tr>
<tr>
<td>Deviation (Per 1000 Angstrom)</td>
<td>±5 arcmin</td>
<td>±10 arcmin</td>
<td>±10 arcmin</td>
</tr>
<tr>
<td>Max Error (Face Width 45°)</td>
<td>±0.050µm</td>
<td>±0.100µm</td>
<td>±0.100µm</td>
</tr>
<tr>
<td>Pyramid Sides Height</td>
<td>3.0µm</td>
<td>3.0µm</td>
<td>3.0µm</td>
</tr>
<tr>
<td>Pyramid Surface Metrology</td>
<td>±3 arcmin</td>
<td>±5 arcmin</td>
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</tbody>
</table>

## Mirror Manufacturing Capabilities

**Mirror Manufacturing Capabilities**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Commercial</th>
<th>Precision</th>
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<tbody>
<tr>
<td>Dimensions (Diameter)</td>
<td>2 - 100mm</td>
<td>50 - 500mm</td>
<td>2 - 75mm</td>
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<td>Dimensional Tolerance</td>
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<td>±0.150mm</td>
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<td>Flatness</td>
<td>±3 arcmin</td>
<td>±3 arcmin</td>
<td>±3 arcmin</td>
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<td>Surface Quality (Scratch)</td>
<td>80/50</td>
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<td>15/5</td>
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<tr>
<td>Coating Options</td>
<td>Metallic, Broadband, Industrial, and Industrial Laser Line</td>
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<tr>
<td>Reflectivity (Non-Laser)</td>
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<tr>
<td>Wavelength Range Covered</td>
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<tr>
<td>Substrate Options</td>
<td>Flat, Optical, Spherical, and Parabolic</td>
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<tr>
<td>Geometries</td>
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### OPTICAL Coating Capabilities

**Optical Coating Capabilities**

<table>
<thead>
<tr>
<th>Dimension</th>
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<td>2 - 100mm</td>
<td>50 - 500mm</td>
<td>2 - 75mm</td>
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<tr>
<td>Reflectivity</td>
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<tr>
<td>Anti-Reflective Wavelength Range</td>
<td>500 - 1300nm</td>
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<tr>
<td>Highly-Reflective Wavelength Range</td>
<td>125 - 4000nm</td>
<td>125 - 4000nm</td>
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<tr>
<td>Shortpass Filter Cut-Off Wavelength</td>
<td>400 - 1000nm</td>
<td>400 - 1000nm</td>
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<tr>
<td>Longpass Filter Cut-On Wavelength</td>
<td>500 - 700nm</td>
<td>500 - 700nm</td>
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<tr>
<td>Bandpass Filter Wavelength Range</td>
<td>30 - 300nm</td>
<td>30 - 300nm</td>
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<td>Reflective MO Filter OD</td>
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<td>Filter Center Wavelength (CWL) Tolerance</td>
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<td>±1.0µm</td>
<td>±1.0µm</td>
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<tr>
<td>Filter Edge Tolerance</td>
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<td>Reflective (BS) Wavelength Range</td>
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<tr>
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<td>&gt;10 J/cm²</td>
<td>&gt;10 J/cm²</td>
<td>&gt;10 J/cm²</td>
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<tr>
<td>Durability</td>
<td></td>
<td></td>
<td></td>
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### IMAGING ASSEMBLIES

**Imaging Lens Assembly Capabilities**

<table>
<thead>
<tr>
<th>Lens Type</th>
<th>Fixed Focal Lengths</th>
<th>Telescopic Magnifying Lenses</th>
<th>Fixed Magnification Lenses</th>
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<tbody>
<tr>
<td>Sensor Size</td>
<td>Up to 43.3mm</td>
<td>Up to 43.3mm</td>
<td>Up to 43.3mm</td>
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<tr>
<td>Resolutions</td>
<td>Up to 120 Megapixels</td>
<td>Up to 72 Megapixels</td>
<td>Up to 160 Megapixels</td>
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<tr>
<td>Field of View</td>
<td>&gt;100°</td>
<td>&gt;100°</td>
<td>&gt;100°</td>
</tr>
<tr>
<td>Lens Mounts</td>
<td>C-Mount, M16, M56</td>
<td>C-Mount, M16, M56</td>
<td>C-Mount, M16, M56</td>
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### LASER OPTICS ASSEMBLIES

**Laser Expander Capabilities**

<table>
<thead>
<tr>
<th>Expansion Power</th>
<th>16 - 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moments</td>
<td>C-Mount, M56, M93</td>
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<tr>
<td>Focusing Mechanisms Available</td>
<td>Sliding Optics, Rotating Optics, Fixed Focus</td>
</tr>
<tr>
<td>Custom Design Capabilities</td>
<td>Yes, Contact Us Today!</td>
</tr>
</tbody>
</table>

**Additional Information**

- 600+ Standard Aspheres Ready for Purchase
- Edmund Optics® is One of the Largest Aspheric Lens Manufacturers in the World
- 6,300+ Standard Spherical Lenses Ready for Purchase
- Available in Glass and Crystalline Materials with a Variety of Standard and Custom Coatings
- Custom Prisms in a Wide Variety of Geometries
- Angle Tolerances Down to 0.5 arcsec and Irregularity Down to λ/20
- Cube, Plate, Polarizing, Non-Polarizing, and Laser Line Capabilities
- Design and Application Expertise for Complex Coating and Geometry Needs
- Custom Design Capabilities: In-House Custom Coating Design, Anti-Reflective, Highly-Reflective, Filter, Polarizing, Beamsplitter, and Metallic Designs
- Over 1.5 Million Imaging Lenses Sold
- Global In-Region Engineering Support & Service
- Beam Expanders, Focusing Objectives, and Other Laser Optics Assemblies
- Laser Line and Broadband Coatings from 257nm - 3µm

**Contact Information**

856.547.3488  | techsup@edmundoptics.com  | www.edmundmanufacturing.com

**Manufacturing Capabilities**

- www.edmundmanufacturing.com
DIAMOND TURNING

- In-House Experts with 10+ Years’ Experience
- Precision Diamond Turning of Metals, Crystalline Materials and Plastics
- Anti-Reflection Coating Options from the UV to IR
- Precision 100Å ±0.1mm 60-40 60-50 $315.00
- Surface Quality (Search High) 80-50 40-20 16.5
- Parallelism: 5 minutes 1 minutes 5 minutes
- Coating Options: BAK for UV, VIS, and IR; Lower All V-Flats
- Wavelength Range Covered: 254 - 1000nm
- Substrate Options: Optical Glasses, fused silica, Ge, Zn, GaAs, Sapphire, and Others

POLYMER POLARIZERS

- Custom Polarizers Manufactured in ITOS, our German Manufacturing Facility
- No Minimum Order Quantity
- Linear Polarizing Film: PMMA laminated, Glass laminated, Wire-Grid Polarizing Film
- Dimensions: 3 x 3mm - 600 x 1000mm
- Thickness: 0.18 - 0.75mm
- Extinction Ratio: up to 100%
- Transmission: 85%
- Wavelength Range Covered: 193nm - 14µm
- Coating Options: BBAR for UV, VIS, and IR; Laser AR V-Coats
- λ: PMMA Laminated
- λ: Glass Laminated
- λ: BAK

OPTICAL FILTER GLASS

- >60 SCHOTT Optical Glass Types in Stock
- No Minimum Order Quantity
- Linewidth Quantity Break Pricing
- λ: Optical Glass, Fused Silica, Ge, Si, ZnSe, CaF2, Sapphire, and Others
- λ: Standard Optics
- λ: Commercial
- λ: OEM discounts.
- λ: 24-HOUR ENGINEERING APPLICATION SUPPORT

CUSTOMER SERVICE
Phone and Online Chat 800.363.1992 or 856.547.3488
- Sunday, 8PM - Friday, 8PM ET
- sales@edmundoptics.com
- www.edmundoptics.com/contact

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