www.shanghai-optics.com

Shanghai® optics

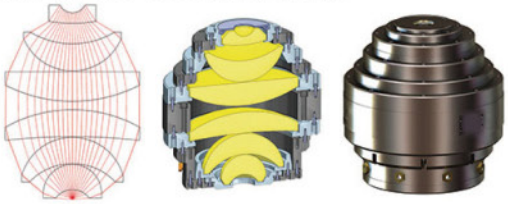
Our Optics Your Vision

Shanghai Optics (SO) is a leading supplier of photonics products including optical components, lens systems, and opto-mechanical assemblies. We serve OEM customers in the biotechnology, pharmaceutical, defense, industrial, commercial and research industries worldwide.

SO specializes in DFM (Design for Manufacturing) input from rapid prototyping to volume production. We have a proven track record of DFM input and design optimization that results in significant savings for our customers.

SO's comprehensive metrology coupled with our cost-effective philosophy help SO customers obtain a competitive edge in the global market while reaching top performance in their optical products. With over 53 years of business experience in the photonics industry, SO has supplied clients worldwide with top quality optics that have resulted in remarkable savings for them.

See what we can do for you today!



Quality Services

- DFM - Design for Manufacturing Input
- Optical System Design - Component/ Lens System/Instrumental
- Optical System Assembly and Subassembly
- Optical Design Optimization
- Custom Optics Fabrication
- Reverse Engineering

Cutting Edge Advantages

- Competitive Cost
- Quality ISO:9001-2008 Registered
- Short Lead Times
- Rapid Prototyping
- Creative Solutions for Lens Design and Optimization
- 100% Satisfaction Guarantee
- Complete Box Build Solutions

Who We Serve

zygo
CORNING
Discovering Beyond Imagination
Leica
PEKING UNIVERSITY
北京大學
3M
Nikon
Canon
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Custom Lens Design and Optical Precision Assembly

Shanghai Optics is dedicated to designing and manufacturing high-end precision lens systems from rapid prototyping to volume production.

We have years of experience in custom lens design and optical precision assembly, which has enabled us to bring our clients top quality products with cutting edge functionality in the most cost effective ways.

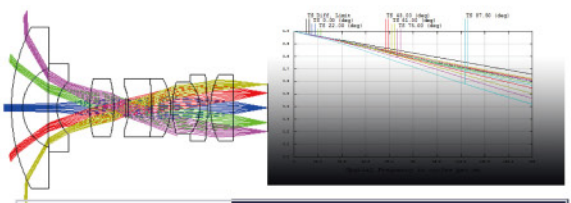
With unmatched design and engineering capabilities, SO has a proven track record of providing customers with custom optical solutions. Our core areas of expertise include optical and mechanical design, optical fabrication, coating and precision assembly. Our world-class optical designers and engineers provide state-of-the-art optical solutions to meet the highest standards and solve the most challenging problems for our customers.

These sophisticated solutions are typically found in applications that demand the finest optical surfaces, highest accuracy and tightest tolerances.

Let our experienced designers and engineers help you bring your vision to life!

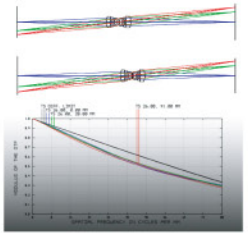
Optical precision Assembly

Fisheye Lenses



System Aperture	Image Space F/# = 2.8
Effective Focal Length	1.233943 (in air at system temperature and pressure)
Effective Focal Length	1.233943 (in image space)
Back Focal Length	2.358698
Total Track	17.3587
Image Space F/#	2.8
Image Space NA	0.1757906
Paraxial Image Height	28.26196
Entrance Pupil Diameter	0.4406938
Field Type	Angle in degrees
Maximum Radial Field	87.5

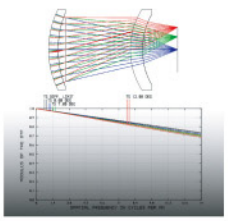
Line CCD Array Scanning Lens System



Magnification Range	1.25 - 1.75
Focal Length	160 mm
Wavelength	400 - 700 mm
Telecentricity (Chief Ray Degree)	< 5°
Distortion	≤ 0.05%
Relative Illumination	95%
Transmission	≥90%
TDI Sensor Format	8,208 X 96 pixel size 10 um

- Spectral sensitivity optimized for CCD cameras
- Usability in both visible and infrared range(400-1000+nm)
- Higher sensitivity obtained because of greater spectral bandwidth (especially with artificial light approximately 1.5 f/stops)
- Broadband coating with reduced stray light and increased transmission
- Reduced color aberrations due to the use of ultra-low dispersion glass
- Minimal geometric distortion
- Improved illumination distribution
- Increased modulation
- Designed and assembled by Shanghai Optics Inc.

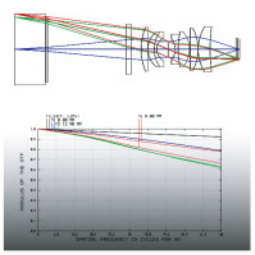
Night Vision Lens System



Wavelength	8-12 um
Focal Length	35 mm
F-Number	F1.4
Transmission	87%
Field Angle	24°
Back Focal Distance	12.6 mm
Imager Format	320 X 240 pixel 25 um pitch

- Designed for the most rugged environments (shock, immersion, etc.)
- Designed and assembled by Shanghai Optics Inc.

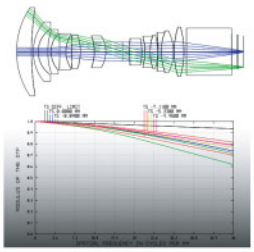
X-Ray Lenses



Focal Length	18.2 mm
Maximum Aperture	f/1.5
Minimum Aperture	f/11
Lens Construction	7 elements in 5 groups
Field Height	12.5 mm
Size of CCD Detector	7.4 X 7.4 mm
Number of Pixels on CCD	1,000 X 1,000, pixel size 7.4um
Distortion	≤ 2%
Camera Mount Adapter	C-mount
Wavelength	490 nm - 570 nm (p20p)
Transmission	90%

- Industry-Leading Price to performance Ratio
- Designed and assembled by Shanghai Optics Inc.

Digital Rear Projection Lens System



Focal Length	12.5 mm
Maximum Aperture	f/2.5
Imager Format	0.7" 1,280 X 720
Transmission	85%
Field Angle	72°
Inner Circle	18 mm
Distortion	0.5%
Relative Illumination	70%
Projection Range	0.7 m ~ 1.4 m
Lateral Color	≤1/3 pix el

- Perfect resolution
- Tight color registration
- Low distortion
- Designed and assembled by Shanghai Optics Inc.

Custom Microscope Objectives

Shanghai Optics specializes in designing and manufacturing custom objective lenses for researchers and OEMs with wavelength spans from the deep-UV to the far-IR ranges .

We provide solutions for super resolution applications that cannot be satisfied by off-the-shelf microscope objective lenses. Some advantages are:

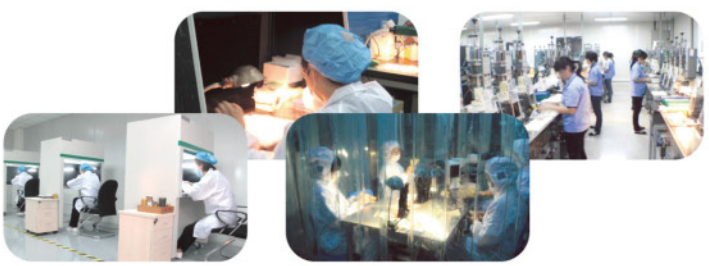
- Low wavefront distortions
- High transmissions
- High damage thresholds
- Large input apertures
- High N.A.

SO manufactures high power long-working-distance objectives with all glass achromatic designs, which can be used as fiber couplers, spatial filters, and in other relay applications.

Our custom Laser Focusing Objectives, along with the UV Imaging lenses and UV Microscope objectives are tailored to suit your exact needs.

Our custom microscope objectives are designed to work correctly with any manufacturer's stock tube and scan lenses. We also offer custom scan and objective lens sets to fit your exact specifications. Special services such as diopter adjustment and indicating needles can be provided.

Our practical designs and DFM (Design for manufacturing) input results in solutions that are one of the most cost-effective in the photonics industry.

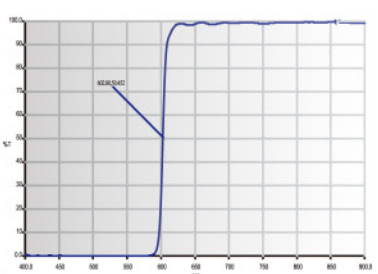


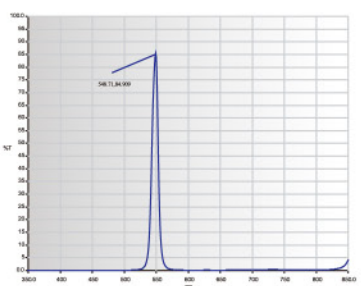
Custom Coating

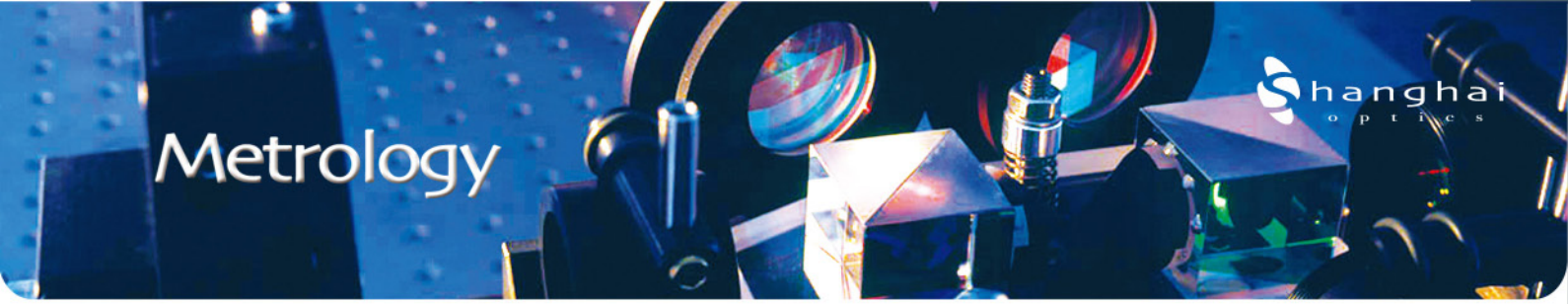
SO's coating department develops thin film filters and related components for various high-end applications for Life Sciences, Lasers and Optical Systems.

Our Thin Film Coating Advantage:

- High Transmission
- Excellent Blocking
- No shift in Wavelength
- Custom Design with No MOQ
- Short Lead-time, 2-3 weeks for custom OEM parts.



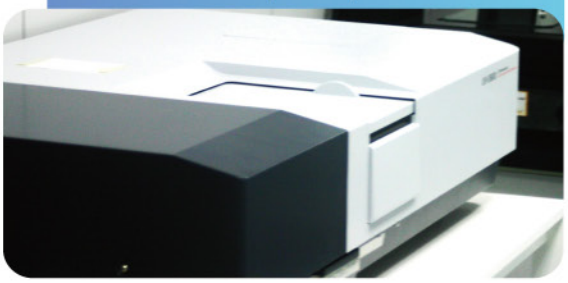




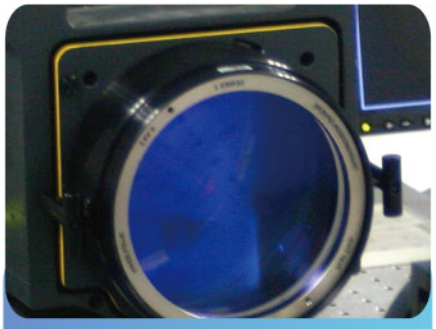
SO is fully equipped with highly advanced, state-of-the-art measuring equipment in our metrology division.

We produce parts that are inspected and measured in accordance to MIL-SPEC to ensure that they meet the exact specifications and optical performance our clients need. All the parts will be shipped along with inspection reports.

Shimadzu Spectrophotometer

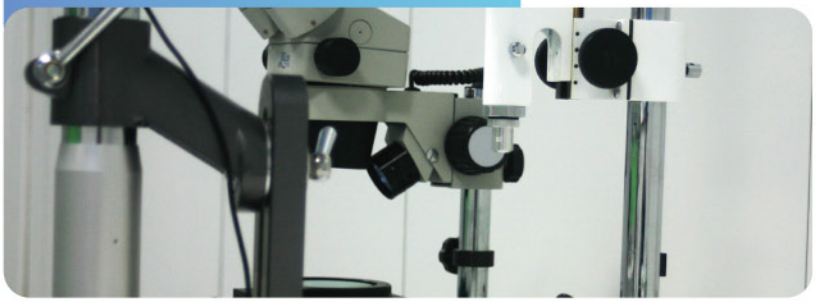


Surface Accuracy Measurement



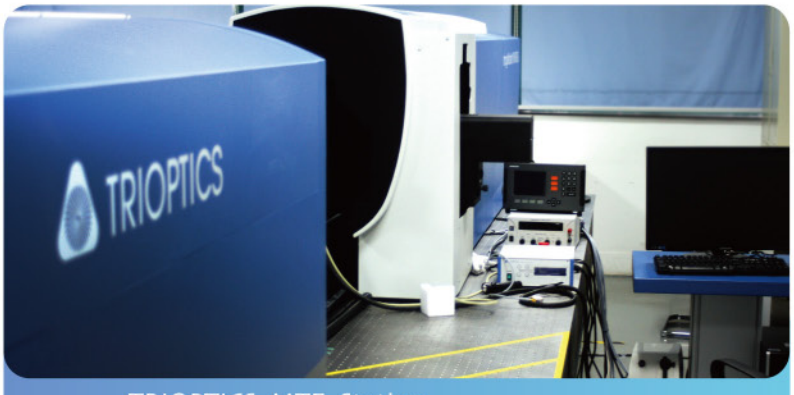
Zygo 6-inch VeriFire XP Interferometer Systems

Angle & Centering Measurement



TRIOPTICS OptiCentric System

MTF Measurement



TRIOPTICS MTF Station
Newly Purchased TRIOPTICS Image Master

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