



Strahl Optics

PRODUCT CATALOGUE

| High Precision Optics Components

Gratings / Lenses / Prisms / Windows / Filters / Mirrors / IR Optics



COMPANY OVERVIEW

We are committed to delivering
high-performance optical solutions
from prototype to mass production.



About Us

Precision Optical Solutions

Strahl Optics Co., Ltd. is a precision optical component company specializing in laser, imaging, communication, and scientific applications. We provide a wide range of optical products including spherical and aspherical lenses, prisms, diffraction gratings, mirrors, optical windows, filters, and infrared components.

We operate with a vertically managed optical manufacturing supply chain, supported by advanced CNC polishing, precision grinding, coating systems, and high-end metrology equipment, ensuring high accuracy, excellent surface quality, and stable batch consistency. We also coordinate specification reviews and verify inspection reports to confirm that supplied components meet the agreed requirements.

Whether you need a standard component or a custom solution, we welcome the opportunity to discuss your application and support your project.



CNC Polishing Machine



Coating Machine



UV Spectrophotometer



ZYGO Profiler

Our Primary Product Directories

Our optical components are systematically categorized by function, geometry, manufacturing process, coating type and spectral range.



Optical Windows

Uncoated & AR/DLC coated protective substrates from DUV to Far-IR.



Optical Lenses

Customized lenses optimized for minimal chromatic aberration.



Optical Prisms

Precision-manufactured prisms built to arcsecond angular tolerance standards.



IR Optics

IR imaging and transmission components for NIR to LWIR.



Diffraction Gratings

Dense groove gratings equipped with premium diffraction efficiency.



Optical Filters

Sharp cut-on & excellent transmittance spectral filtering components



Optical Mirrors

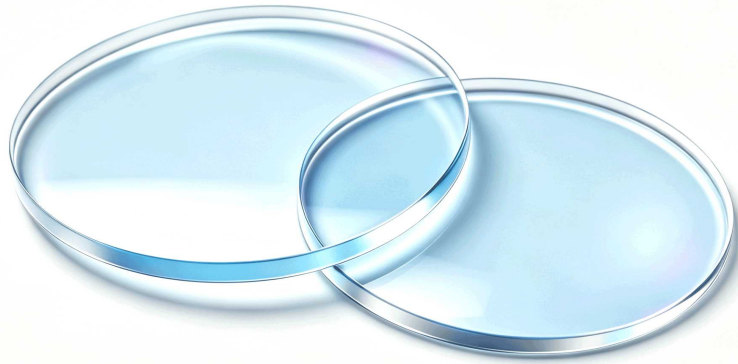
Coated reflective optical mirrors with outstanding reflectance performance.



Rod Lenses

Efficient light coupling, beam shaping and image transfer solutions.

Optical Windows



Categories

- ✓ UV Grade Windows
- ✓ Visible Grade Windows
- ✓ IR Grade Windows

Protect & Transmit Light

We provide high-precision optical windows designed for demanding optical, laser, and imaging applications.

Manufactured from premium materials including Optical Glass, Fused Silica, Sapphire, and infrared crystals, our windows ensure excellent transmission, high durability, and stable performance across UV, Visible, and IR wavelengths.

With advanced machining and coating capabilities, we support a wide range of customized specifications to meet diverse system requirements.

Parameter	Specification
Substrate	Optical Glass, Fused Silica, Sapphire, CaF ₂ , MgF ₂
Dimension (mm)	1 – 200
Thickness (mm)	0.5 – 10
Tolerance (mm)	±0.10 – ±0.05
Clear aperture	> 90%
Flatness	$\lambda - \lambda/20$ @ 632.8 nm
Surface quality	60-40 / 20-10 S/D
Parallelism	< 1 arcmin
Coating option	AR / DLC coatings

Optical Lenses



Categories

- ✓ Spherical Lenses
- ✓ Aspherical Lenses
- ✓ Ball Lenses
- ✓ Cylindrical Lenses
- ✓ Achromatic Lenses
- ✓ Dome Lenses

Comprehensive Focus Solutions

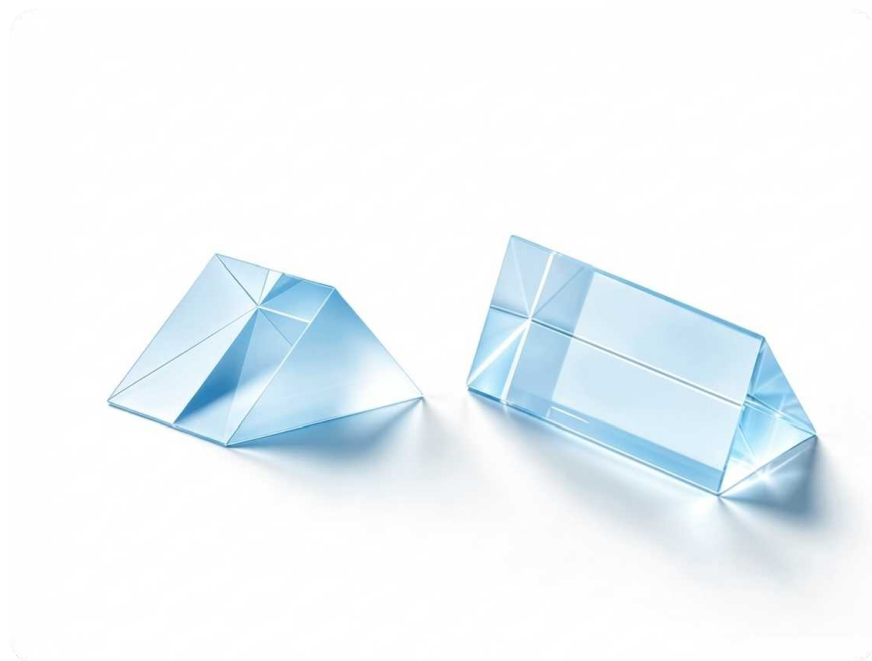
Optical lenses are used to shape, focus, or expand light in imaging and laser systems.

We offer a wide range of spherical, aspherical, and cylindrical lenses with flexible configurations, high surface accuracy, tight dimensional tolerances, and various focal length options. Available shapes include plano-convex (PCX), plano-concave (PCV), double-convex (DCX), double-concave (DCV), meniscus, and cylindrical types.

Optional AR coatings are available to improve transmission and reduce surface reflections across specific wavelength ranges, supporting a wide range of optical applications.

Parameter	Specification
Substrate	Optical Glass, Fused Silica, Sapphire, CaF2
Dimension (mm)	2 – 300
Center Thickness (mm)	1 – 25
Tolerance (mm)	±0.10 – ±0.05
Clear aperture	> 90%
Flatness	$\lambda - \lambda/10$ @ 632.8 nm
Surface quality	60-40 / 20-10 S/D
Parallelism	< 1 arcmin
Coating option	AR coatings

Optical Prisms



Categories

- ✓ Right-Angle Prisms
- ✓ Roof Prisms
- ✓ Beam Splitter Prisms
- ✓ Wedge Prisms
- ✓ Equilateral Prisms
- ✓ Pentaprisms
- ✓ Dove Prisms
- ✓ Corner Cube Prisms

Redirect, Disperse & Reflect Light

Optical prisms are precision components designed for controlling light direction, image orientation, polarization, and spectral separation in optical systems.

We provide a wide range of prism types suitable for applications such as beam steering, optical imaging, laser systems, and measurement instruments. Manufactured with high angular accuracy, excellent surface quality, and strict dimensional control, our prisms ensure reliable optical performance and stable system integration.

Various coating options are available to meet different wavelength and application requirements.

Parameter	Specification
Substrate	Optical Glass, Fused Silica, Sapphire, CaF ₂ , MgF ₂
Dimension (mm)	5 – 200
Beam Deviation Angle	45° / 60° / 90° / 180°, custom deflection angles available
Angle Tolerance	±5 – ±30 arcsec
Clear aperture	> 90%
Flatness	$\lambda - \lambda/10$ @ 632.8 nm
Surface quality	60-40 / 20-10 S/D
Chamfer	0.1 ~ 0.5 mm × 45°, protective chamfer, no edge chips
Coating option	AR / HR / polarizing coatings

Infrared Optics



Categories

- ✓ Infrared Lenses
- ✓ Infrared Prisms
- ✓ Infrared Windows
- ✓ Infrared Mirrors

Infrared Light Transmission & Imaging

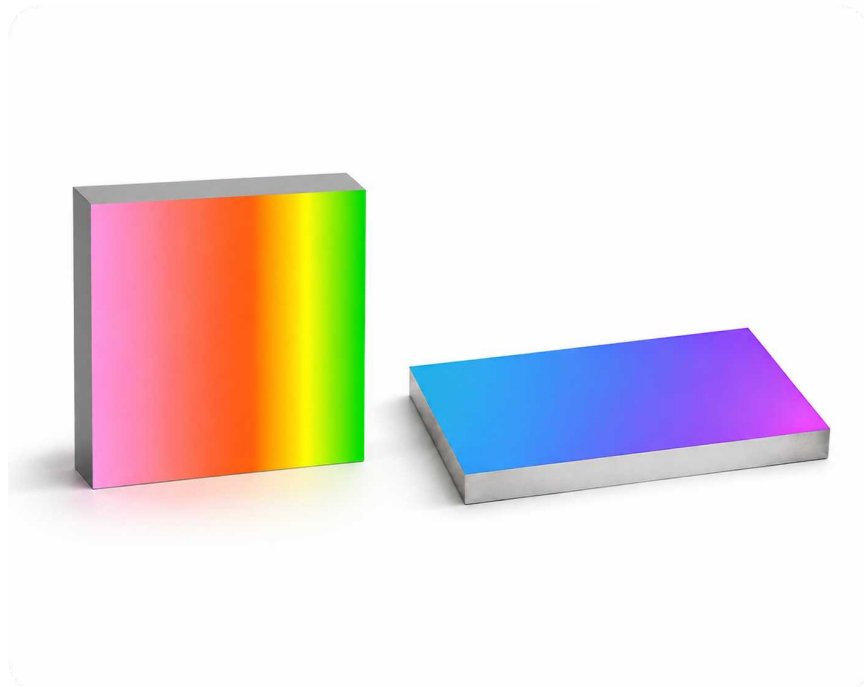
Infrared optics are designed for high-performance light transmission and imaging in the infrared spectral range.

We provide a variety of IR optical components manufactured from materials such as germanium (Ge), silicon (Si), zinc selenide (ZnSe), zinc sulfide (ZnS), and calcium fluoride (CaF₂), offering excellent optical properties across MWIR and LWIR applications.

Our infrared optical components are frequently utilized in thermal imaging, infrared sensing, laser systems, spectroscopy and other advanced optical applications..

Parameter	Specification
Substrate	Chalcogenide Glass, BaF2, CaF2, ZnSe, ZnS, Ge, Si, KBr, Sapphire
Dimension (mm)	Custom Sizes Available
Thickness (mm)	Custom Thickness Available
Tolerance (mm)	±0.10 – ±0.05
Clear aperture	> 90%
Flatness	$\lambda - \lambda/10$ @ 10.6 μm (CO ₂ IR standard)
Surface quality	60-40 / 20-10 S/D
Transmission range	SWIR/MWIR/LWIR / Broadband 1–14 μm
Coating option	Multi-band IR AR Coatings (1–3/3–5/8–12 μm), IR HR Coatings, DLC Coatings

Diffraction Gratings



Categories

- ✓ Ruled Gratings
- ✓ Holographic Gratings
- ✓ Reflection Gratings
- ✓ Transmission Gratings

Diffract & Resolve Spectral Light

Diffraction gratings are precision optical components designed for wavelength separation, spectral analysis, and light dispersion in advanced optical systems.

Our gratings offer high diffraction efficiency and accurate spectral performance across UV, visible, and infrared wavelengths. Manufactured with precise groove structures and excellent surface quality, our gratings are widely used in spectroscopy, laser systems, optical sensing, and analytical instruments.

Parameter	Specification
Substrate shape	Plane / Spherical Concave (reflection only)
Dimension (mm)	12.5 – 100
Thickness (mm)	3 – 10
Groove density (grooves/mm)	50 – 3600
Clear Aperture	80%–90% of overall dimension, custom available
Spectral (nm)	UV / Visible / NIR / MIR
Blaze wavelength (nm)	200 – 10000 (customizable)
Diffraction efficiency	≥75% (at blaze wavelength)
Surface quality	60-40

Optical Filters



Categories

- ✓ Bandpass Filters
- ✓ Longpass Filters
- ✓ Dichroic Filters
- ✓ Shortpass Filters
- ✓ Notch Filters

Spectrally Selective Coatings

Optical filters are designed to selectively transmit, block, or attenuate specific wavelength ranges to achieve precise spectral control in optical systems.

Our filter solutions applicate from UV and visible imaging to infrared sensing and laser systems. With optimized coating designs, high blocking performance, sharp spectral characteristics, and excellent transmission stability, our filters provide reliable wavelength management for scientific research, industrial inspection, fluorescence imaging, and optical detection applications.

Parameter	Specification
Substrate	Optical Glass, Sapphire, Fused Silica
Dimension (mm)	5 – 200
Thickness (mm)	1 – 10
Cut-on / Cut-off Wavelength (nm/μm)	Custom band edges across 0.2–14 μm UV to LWIR
Surface quality	60-40 / 40-20 S/D
Angle of Incidence	0°, 15°, 30°, 45° custom AOI
Transmission	Peak T:85%–92%; Min T≥55%(narrow bandpass/notch), ≥85%(edge/dichroic)
Optical Density	OD2 – OD6

Optical Mirrors



Categories

- ✓ Flat Mirrors
- ✓ Concave Mirrors
- ✓ Metallic Mirrors
- ✓ Dielectric Mirrors

High Efficiency Light Reflection Control

Optical mirrors are essential components for precise light reflection and beam path management in laser, imaging, and optical measurement systems.

We offer various substrate materials and coating solutions optimized for UV, visible, and infrared wavelengths. Featuring high surface accuracy, excellent reflectivity, and long-term coating stability, our mirrors provide reliable performance for applications requiring accurate beam alignment and efficient light handling.

Parameter	Specification
Substrate	Optical Glass, Fused Silica, Silicon
Dimension (mm)	5 – 300
Thickness (mm)	1 – 25
Angle of Incidence	0° / 45°, custom angles 10° – 80° available
Clear aperture	≥ 90%
Flatness	$2\lambda - \lambda/10$ @ 632.8 nm
Surface quality	60-40 / 40-20 S/D
Wavelength Range (nm)	200 nm – 12 μ m (UV / Vis / NIR / MIR)
Coating option	Metallic (Al / Ag / Au) coating, Dielectric coating

Rod Lenses



Categories

- ✓ Laser Rod Lenses
- ✓ Endoscope Rod Lenses
- ✓ Light-Guiding Rods

Guide, Shape & Transfer Light

Rod lenses are cylindrical optical components designed for efficient light transmission, beam shaping, and image transfer in compact optical systems.

Utilizing cylindrical optical geometry or gradient-index technology to achieve efficient light coupling, beam shaping and image transmission in compact optical systems.

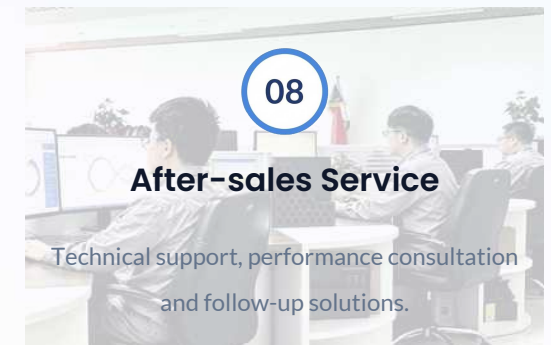
We offer high-quality glass rod lenses with precise dimensional control and excellent surface finish, widely used in endoscopy, medical imaging, illumination systems and laser line generation applications.

Parameter	Specification
Substrate	BK7, Fused Silica, GRIN silicate glass
Diameter (mm)	1 – 10, custom available
Length (mm)	5 – 100, custom available
Operating wavelength (nm)	400–700nm (Endoscope), 850/1310/1550nm, UV-IR laser band
Surface quality	40-20 / 20-10 S/D
Clear Aperture	90% of full diameter
Coating option	AR coating, Metallic reflective coating

Custom Optical Components

We provide fully custom optical elements tailored to your wavelength, geometry and surface specification requirements.

A complete QA workflow is implemented throughout manufacturing to guarantee consistent performance for laser, imaging, sensing and infrared systems.



Start Your Custom Project Today

Statement

All technical parameters, product descriptions and specifications shown in this catalog are for preliminary reference only, which shall not constitute binding performance commitments. Final product standards, technical indicators and prices shall be subject to official written quotations and formal signed contracts from Strahl Optics. All drawings and technical materials contained herein are protected by copyright, and unauthorized reproduction is prohibited. Customers are responsible for confirming product applicability to their practical application scenarios before placing orders.

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