



**Dedicate On Optics  
and Lens system**

**Passion • Profession • Innovation**

热爱

专注

创新

UNI OPTICS

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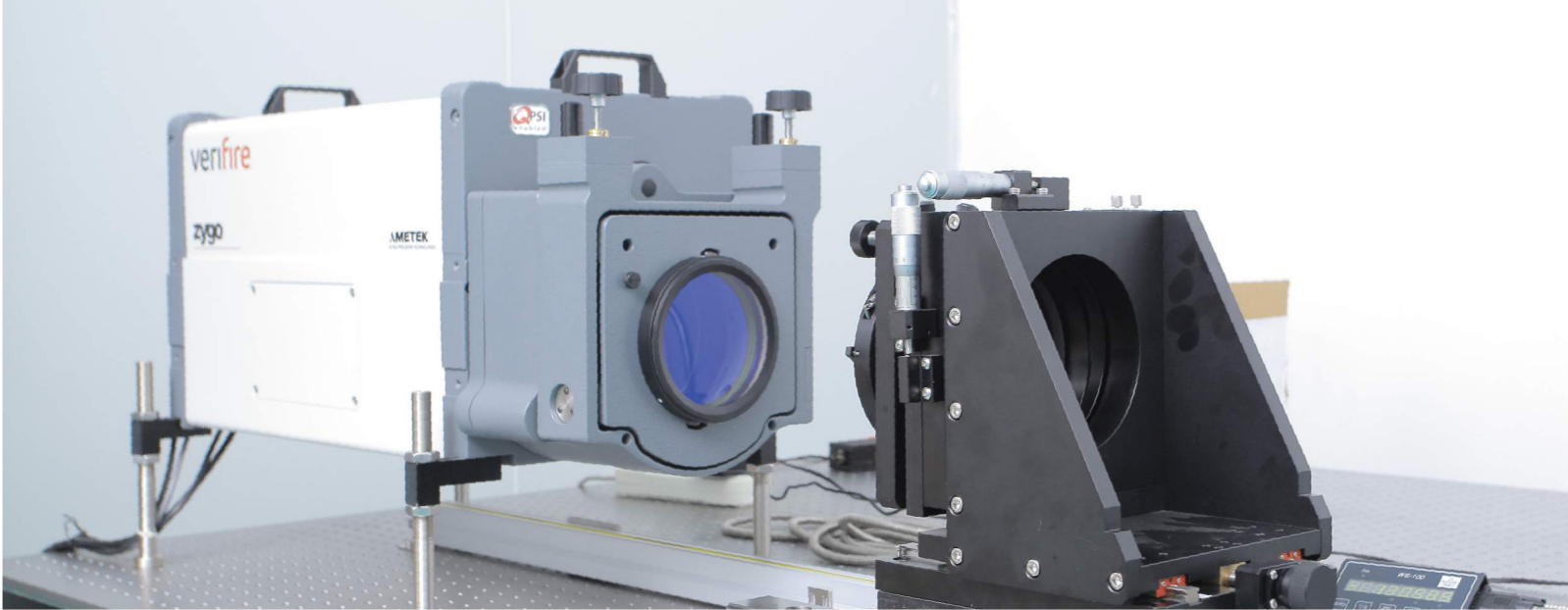
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# ABOUT US

UNI Optics specialize on high precision optics and lens system in China for many years. We provide our customers with one-stop optical solutions. Our highly skilled team with more than 15 years experience in designing, manufacturing, assembling and testing. Our integrated assemblies, lenses, prisms, mirrors, and filters are widely used in machine vision, factory automation, lasers, medical, life science, biometric, military applications.

From prototype to volume production, UNI Optics is focused on providing excellence in customer service. Whatever your requirements, we will work directly with you to ensure the project succeed.

Typical products and service:

- Optical design / Coating design / Mechanical design / Lens assembly system.
- High resolution, low distortion and wide angle S-mount lens.
- Machine vision filters(bandpass/ long pass/ UV-IR cut/ polarizing etc.)

公司简介

优思立专注于精密光学元件及其镜头研发与制造,拥有经验丰富的专业技术团队,能快速提供咨询、设计、制造、装配和测试等一站式光学解决方案,为您量身定制各种光学元件与镜头系统,助力您的新产品和项目在市场上更具差异化。我们的定制镜头,透镜,棱镜,反射镜和滤光片广泛应用于机器视觉,工厂自动化,激光,医疗,生命科学,生物识别,军事应用等高科技领域。

从打样到批量生产,我们始终专注客户需求,提供全面直接有效客户定制服务,以保证项目成功。

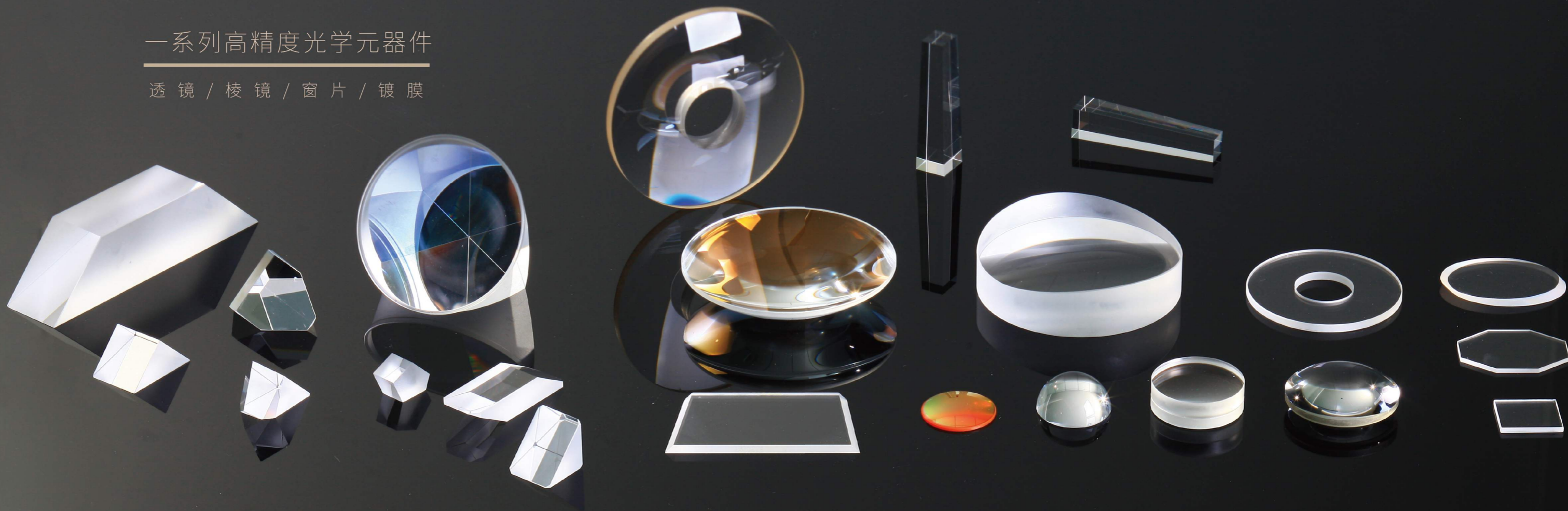
核心产品与服务:

- 光学设计 / 镀膜设计 / 机械件设计 / 镜头系统组装
- 高分辨率、低失真、广角S接口镜头
- 机器视觉滤光片(带通滤光片/长波通滤光片/紫外红外截止滤光片/偏振滤光片等)



# 一系列高精度光学元器件

透镜 / 棱镜 / 窗片 / 镀膜



UNI OPTICS has rich experience in customized advanced optics manufacturing, using various glass material (CDGM, Schott, Ohara, Corning, colored glass etc.), quartz, germanium, silicon, ZnS, ZnSe, CaF<sub>2</sub>, sapphire and so on.

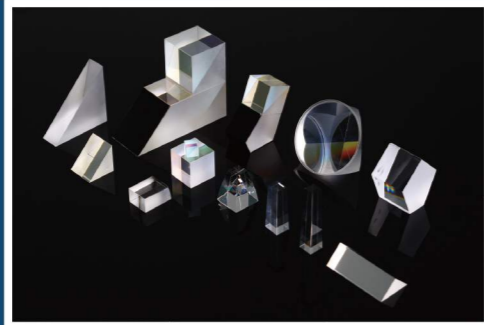
# Spherical Lens

球面透镜



Specification:

- Dimension: 0.8mm to 200mm or bigger
- Surface Quality: 40-20 or better
- Flatness:  $\lambda/4$  or better
- Centration: 3 arc mins or better
- Custom design solution

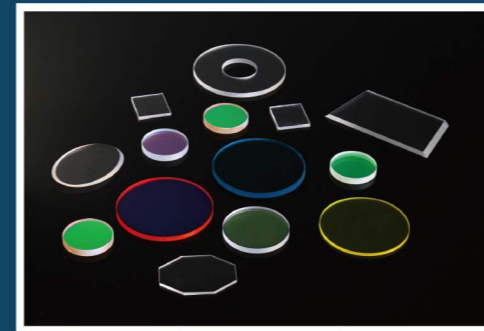
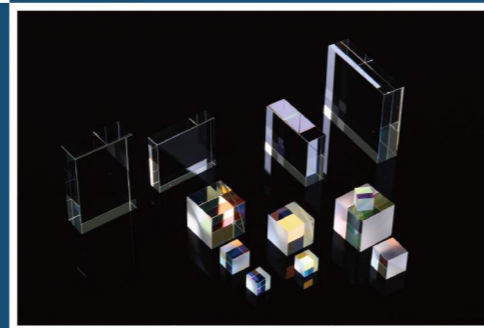


# Prism Prism Assemblies

棱镜及棱镜组装

Specification:

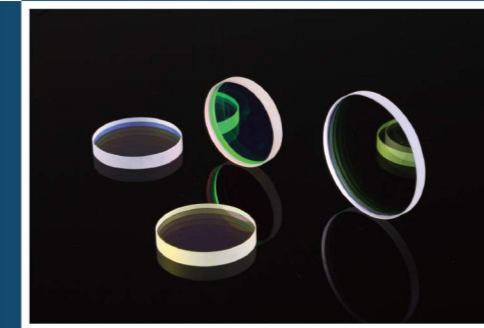
- Dimension: up to 450mm
- Angle Tolerance:  $\pm 1$  second
- Flatness:  $\lambda/10$  or better
- Surface Quality: 40-20 or better
- Glue or Optical contact



# Flats 平面光学元件

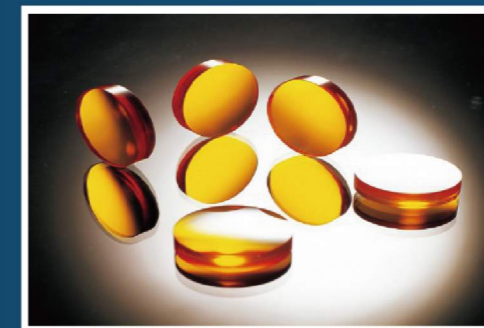
Specification:

- Types: Windows, Mirrors, Filters and Waveplates.
- Diameter up to 450mm
- Surface Quality: 20-10 or better
- Flatness:  $\lambda/10$  or better
- Parallelism: 10 arc second



Specification:

- Types: Flats, Mirrors, Windows, and Lenses
- Material: ZnSe, ZnS, Ge, Si, CaF<sub>2</sub>
- Max dimension(mm): 200mm
- Form error:  $\lambda/10$



# Infrared Optics

红外光学元件



# Cylindrical Lens

柱面透镜

## Why Cylinders

为什么选择柱面透镜?

A cylindrical lens differs from other lenses in the fact that it focuses light into a line and not a point. This is due to the lens having a curved face, or faces, that resemble a section of a cylinder. The lens has a radius of curvature in one axis but is flat in the other, which results in image magnification in only one axis. Cylindrical lenses can be used in medical, defence, and other market spaces. They have the benefit of correcting for astigmatism or adjusting the height of the image.

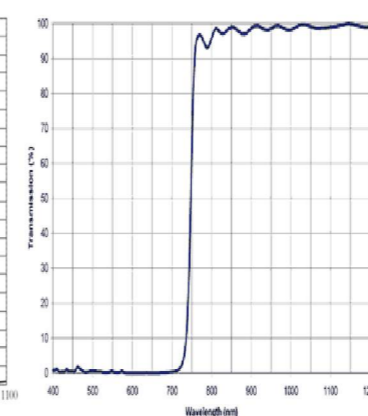
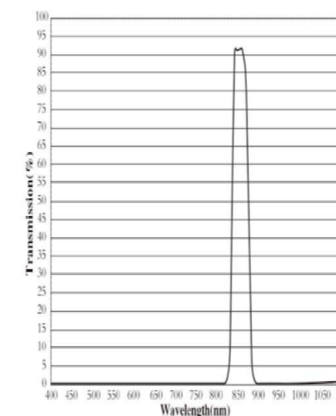
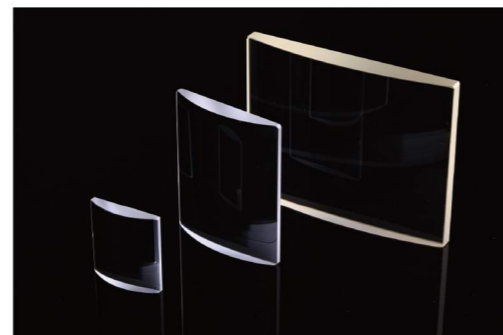
柱面透镜与其他透镜的不同之处在于它把光聚焦成一条直线而不是一个点,这归功于柱面透镜有类似于圆柱体的一个或多个曲面。柱面透镜的一条轴有曲率半径,另一条轴是平的,这使图像可以只在一条轴上放大。因为柱面透镜具备校正散光和调整图像高度的优点,它们被广泛运用在医疗、国防等领域。

## Cylindrical Optics

柱面光学元件

Types of cylinders: Singlets, doublets, triplets, anamorphic, plano-concave, plano-convex, sphero-cylindrical etc.  
Sizes: 3mm-200mm or bigger  
Material Types: all the optical glass, fused silica and quartz  
Volumes: Prototype to production quantities

柱面类型: 单片、双胶合、三胶合、异形、平凹、平凸以及球柱面状等等。  
加工尺寸: 3mm-200mm或更大  
加工材料: 光学玻璃、融石英、石英  
数量: 打样, 量产均可



# Filtering in Machine Vision

机器视觉滤光片

## Why filters

为什么使用滤光片?

There are many different types of filters in machine vision that can be utilized to improve or change the image of the object under inspection. Filtering provides a simple way to enhance the contrast of the image while blocking out unwanted illumination.

机器视觉中有许多不同类型的滤光片, 可用来改善或改变被检测对象的成像效果。滤光片在阻挡不需要光波的同时提供了一种简单的办法增强成像的对比度。

## Filters types

- Bandpass filter
- Longpass filter
- Shortpass filter
- Neutral density filter
- Polarizing filter
- Coated interference filter

## 滤光片类型

- 带通滤光片
- 长波通滤光片
- 短波通滤光片
- 中性密度滤光片
- 偏振滤光片
- 镀膜干涉滤光片

## Applications

- Machine Vision/Factory Automation
- Security and Surveillance
- License Plate Recognition/ITS
- Medical and Life Science
- Agricultural Inspection
- Aerial Imaging
- Motion Analysis
- Photography and Cinematography

## 滤光片应用

- 机器视觉/工厂自动化
- 安全与监测
- 车牌识别/智能交通系统
- 医疗与生命科学
- 农业检测
- 航空摄影
- 运动分析
- 摄影与电影摄影

## 一站式的解决方案

光学设计/机械设计/组装测试

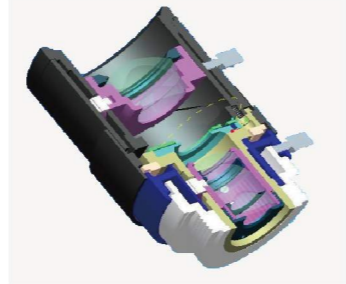
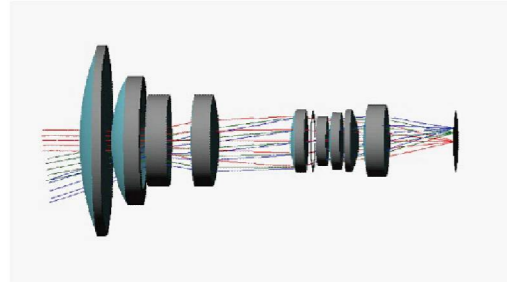


UNI OPTICS is specialized in the sophisticated optical assembly. Our experienced engineering team is well familiar with a broad range of imaging lens assemblies and market applications. Our typical products and services include OEM&ODM objective lens, standard FA lens, small objective lens and endoscope adapters.



## Design Service and Standard Lens

## 设计服务与标准镜头



### Optical design 光学设计

### Mechanical design 机械件设计

Optical system design and optimization  
Cost-Performance tradeoff management  
Enable measurement and evaluation of performance  
Optimized for environmental effects

SolidWorks modeling and drafting  
Manufacture analysis  
In-house machine shop

UNI Optics developed own brand machine vision lenses addressing the needs of application using high pixel count image sensors.

优恩立自主研发自有品牌机器视觉镜头，配合高像素图像传感器的应用需求。

## Standard typical products

### 核心标准产品

Standard FA lens  
Small objective lens  
Endoscope adapters

标准工业镜头  
标准小镜头  
内窥转接口



## Coating 镀膜

### Optical Coatings 光学镀膜

Our ability to custom coat your optics in-house provides you with an all-inclusive optics manufacturing partner. This means we can personally ensure quality throughout and meet quicker turnaround times.

UNI OPTICS' engineers can use a stock coating or create a custom coating to meet your specifications. From ARs and HRs to beamsplitters and cut-off filters, high performance coatings deliver exceptional value.

作为一站式光学元件制造商，我们可以为您的产品提供自制镀膜定制服务，全程把控质量，并缩短周转时间。

我们的工程师团队可以使用现有镀膜技术或为您的产品量身定制镀膜方案，确保满足您的要求。从增透膜、高反膜、分光膜、滤光膜，到高性能膜层都将带给您超值体验。



### Coating Design 镀膜设计

We have an extensive inventory of over 400 coating designs, our engineers can use to provide a stock solution to your requirements. Using a stock coating can often reduce your coating cost, as it increases the efficient use of the coating chamber.

In the event a custom design is required, our coating engineer used specialized software to design a coating to meet your spectral and environmental performance requirements.

我们有400多种的镀膜膜系设计，我们的工程师可以根据您的需求提供现有方案，充分利用我们的镀膜车间，从而有效降低您的镀膜费用。

如果您需要镀膜定制，我们的镀膜工程师将运用专业的软件来设计膜层，以满足您的光谱及应用环境需求。



# Metrology Quality assurance

精密测量 质量保证

UNI OPTICS is dedicated to continually evolving our knowledge and experience in order to deliver products and expertise that advance our clients' technologies. Combine with our manufacturing, we have the complete in-house inspection department and most advanced metrology instruments to ensure our products quality and stability.

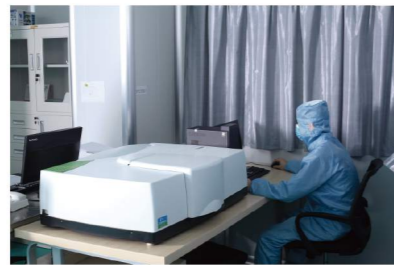
优恩立致力于持续专业知识储备和改进生产技术, 保证客户产品成功交付, 为客户技术进步提供专业指导意见。我们有完善的内部检测体系和最先进的测量设备, 保证产品质量的稳定性和一致性。



Multi-function lens test station:  
透镜综合测试仪:  
Radius  
Focal length



Lambda 750 spectrophotometer:  
分光光度计  
Transmittance  
Reflectance



ZYGO GPI Interferometer:  
干涉仪  
Surface flatness  
Surface figure  
Wavefront



# Manufacturing

生产概要

Fast prototype 快速打样

Spherical polishing 球面抛光

Cylindrical polishing 柱面抛光

Prism&flats polishing 棱镜&平面抛光

Centering 定中心

Assembling 组装



# UNI