

★ Leading in optics with cutting-edge technology ★

BENANA OPTICS

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01



About Bena optics

Putting technology first and you even before

Ultra- high precision optical components manufacture in China

Bena Optics, established in 2014, is dedicated to the production of ultra-high precision optical components. Over the years, the company has continuously upgraded its processing equipment and enhanced its technological capabilities, positioning itself as a leading figure in the optical components industry in China.

The 2,500 square meter facility houses a team of approximately 30 professionals, including technical engineers, skilled processing personnel, and assembly and testing experts, all working together to ensure the highest quality standards. Bena Optics boasts state-of-the-art equipment, including Ion Beam Figuring (IBF), Magnetorheological Finishing (MRF), large CNC machines, ring polishing machines with diameters ranging from 1.2m to 2m, and Computer Controlled Optical Surfacing (CCOS).

The company also utilizes advanced measurement tools such as laser interferometers, a Coordinate Measuring Machine (CMM), and a LumphoScan420HD high-precision non-contact 3D optical profiler.

Bena Optics serves a diverse range of prestigious clients, including the Changchun Institute of Optics, Fine Mechanics and Physics (CIOPMA), Beijing Institute of Technology (BIT), and Stanford University.

Bena Optics' products are utilized by customers in over 60 countries, spanning fields such as scientific research, medical instruments, aerospace, national defense, weather monitoring, geology, and oil exploration. Bena Optics offers a comprehensive product range that includes spherical lenses, aspherical lenses, cylindrical lenses, optical windows, prisms, mirrors, and filters. These products are crafted from materials such as ultraviolet quartz, fused silica, visible glass, infrared silicon metal, sapphire, ZnSe, ZnS, and SiC. Committed to delivering the highest quality optical components through continuous innovation and technological advancement, Bena Optics has established itself as a trusted partner in the global optical components industry. The company looks forward to collaborating with clients on their next projects.



02



Products of Bena optics

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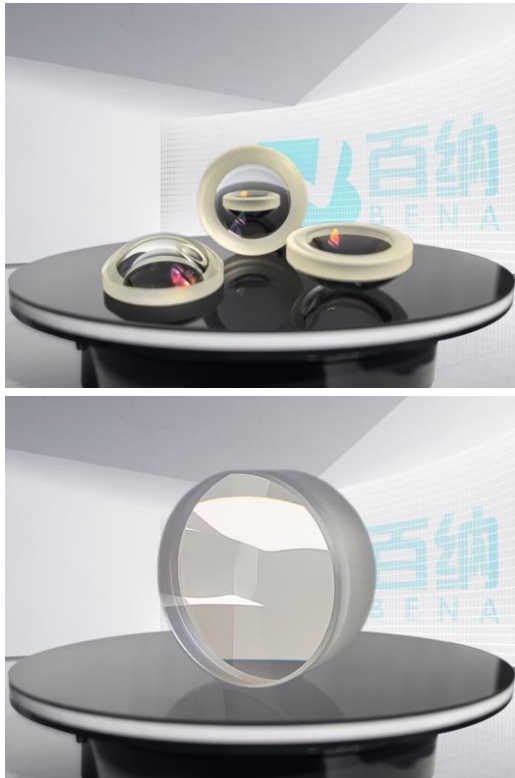
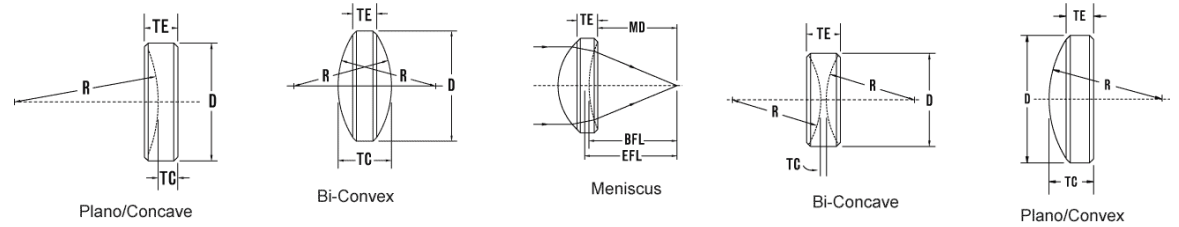
Commercial optical components

02

Ultra-high precision optics

Commercial optical components - Spherical lens

Optical lens is an essential optical element in many optical components, mainly for imaging, focusing, collimating, diffusing beams, etc. The lens will affect the wavefront curvature of light, and the lens is a device that can aggregate or disperse light. , there are real images and virtual images. Widely used in security, digital cameras, high-power lasers, optical instruments and other high-tech fields.



Bena optics currently possesses two machining systems, in addition to high speed polishing and classic polishing. Firstly, high-speed polishing is mainly utilized for batch commercial products, while classic polishing is employed for repairs, large sizes, material reasons and other special circumstances. Of course, it is also used as a pretreatment for aspherical surface processing.

Specifications	Commercial spec.	High precision spec.
Material	UV glass (quartz, fused silica) VIS glass (Schott, CDGM, HOYA, etc.)	
Diameter	Ø5mm~Ø600mm	
Diameter tolerance	±0.1mm	±0.05mm
Focal length tolerance	±2%	±1%
Surface quality	60/40	40/20
Centration	< 3 arc min	<1arc min
Surface figure	3λ	2λ
Surface irregularity	1/4λ	1/10λ
Clear aperture	>85% of dia	>90% of dia
Bevel	<0.2mm x 45deg	<0.1mm x 45deg
Coating	Up on clients' request	

Commercial optical components - Aspherical lens



Different from spherical lenses, aspherical lenses have a constant radius of curvature. The radius of curvature of aspherical lenses changes continuously from the middle to the edge with the change of the main optical axis, which can better correct spherical aberration and chromatic aberration, and thus improve the spot quality of the lens. By adjusting the conical constant and the aspherical coefficient, the lens can be optimized to reduce the aberration to a large extent, which is often used in barcode scanning, laser collimation, optical imaging and other fields. Aspherical lenses designed with a single element, helping to minimize the number of lenses in an optical system.

Customization	Build-to-print
Material	Fused silica, SiC, Si, optical glass, RSA Microcrystalline, Aluminium alloy
Diameter	10 ~ 800nm
Diameter tolerance	0/-0.015mm
Surface Quality	20/10, 10/5
Surface Accuracy	$RMS \leq \lambda/80 @ 632.8nm$
Coating	As required
Edge	As required
Surface Roughness	$Ra \leq 2nm$

The application of aspherical lenses

1. Optical instrument application

Aspherical lens is widely used in telescope, microscope, optical measuring instrument and other optical instruments, which can improve the image quality and measurement accuracy.

2. Laser system application

Aspherical lens also has important applications in laser beam shaping, image transmission, laser marking and other fields. Aspherical lenses can change the focal length, focusing performance and spot shape of the laser beam to meet different application requirements.

3. Automotive optical applications

Aspherical lenses are also widely used in automotive headlights, car cameras and other optical systems, which can provide better lighting effects and image quality.

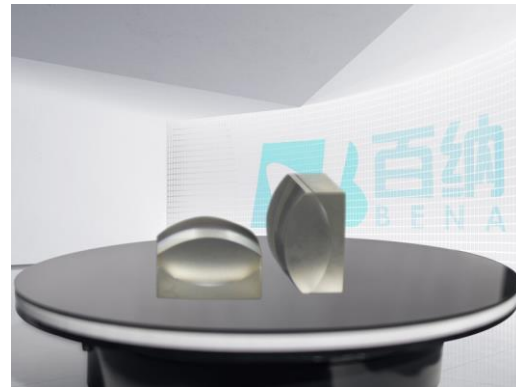
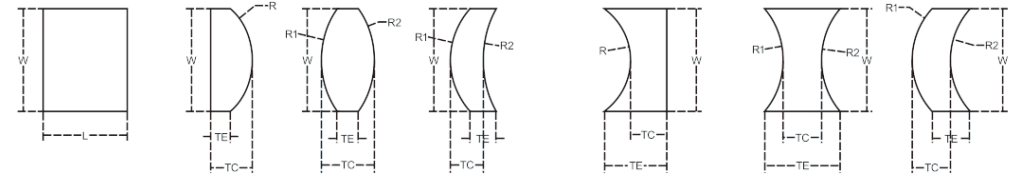
4. Medical ophthalmology applications

Aspherical lenses are often used in vision correction devices such as glasses and contact lenses, which can correct problems such as refractive errors of the human eye and provide a clearer visual experience

Commercial optical components - Cylindrical lens

The cylindrical lens is a lens which focuses light into a line instead of a point, as a spherical lens would. The curved face or faces of a cylindrical lens are sections of a cylinder and focus the image passing through it into a line parallel to the intersection of the surface of the lens and a plane tangent to it. The lens compresses the image in the direction perpendicular to this line and leaves it unaltered in the direction parallel to it (in the tangent plane). In a light sheet microscope, a cylindrical lens is placed in front of the illumination objective to create the light sheet used for imaging.

Bena Optics manufacture the standard commercial and customized precision cylindrical lenses,; plano convex cylindrical lens, plano concave cylindrical lens, double convex cylindrical lens, double concave cylindrical lens, meniscus cylindrical lens, double cement cylindrical lens, triple cement cylindrical lens, etc.



Specifications	Commercial spec.	High precision spec.
Material	UV glass (Quartz, fused silica) VIS glass (Schott, CDGM, HOYA, etc.)	
Dimension tolerance	±0.1mm	±0.05mm
Focal length tolerance	±2%	±1%
Surface quality	60/40	40/20
Centration	< 3 arc min	<1arc min
Surface figure	3λ	2λ
Surface irregularity	1/4λ	1/10λ
Clear aperture	>85%	>90%
Bevel	<0.2mm x 45deg	<0.1mm x 45deg
Coating	Up on clients' request	

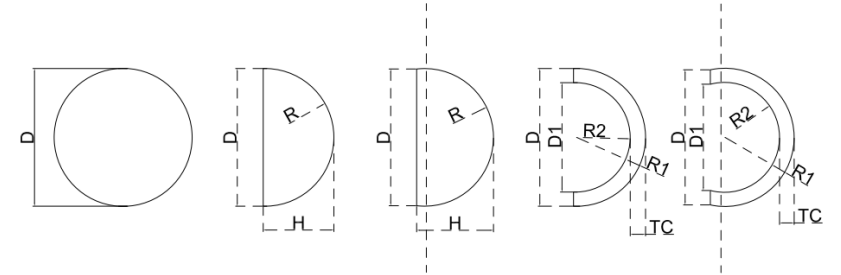
Commercial optical components - Optical dome



Bena optics' dome window consists mainly of hemispheres and hyper-hemispheres. It is composed of two parallel optical surfaces, (A convex surface & A Concave surface). Normally we can control the parallel tolerance $< \pm 2\mu\text{m}$. A perfect parallel surface, in the imaging, the image does not distort, and in the measurement of light, the light does not distort. Bena Optics Optical Dome, the optical properties are unique, which are produced by the optical technology of optical grinding and polishing.

Bena Optics large clear optical glass dome window mainly are hemisphere, hyper-hemisphere, and customized designing. Whether it is a visible dome, UV dome, or IR dome, Bena Optics Dome has been confirmed in the international market.

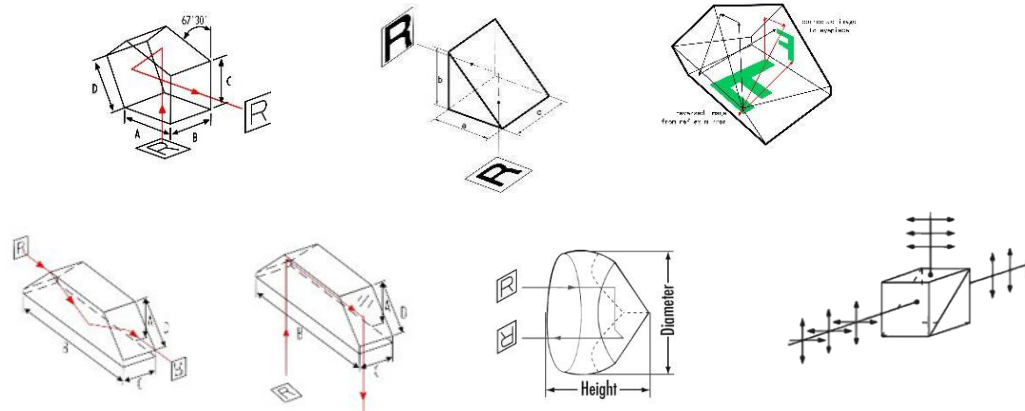
According to the unused application scenarios of dome window, it is divided into solar radiation dome, underwater and deep-sea imaging dome, sky camera dome, and defense application dome.



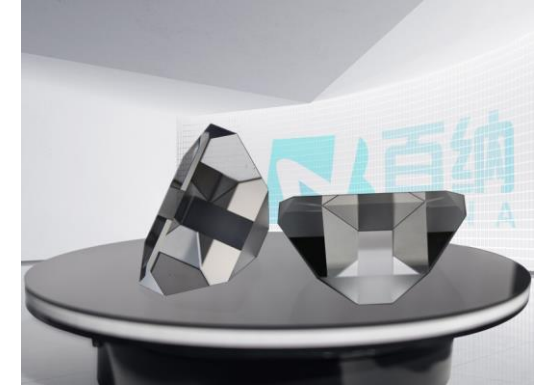
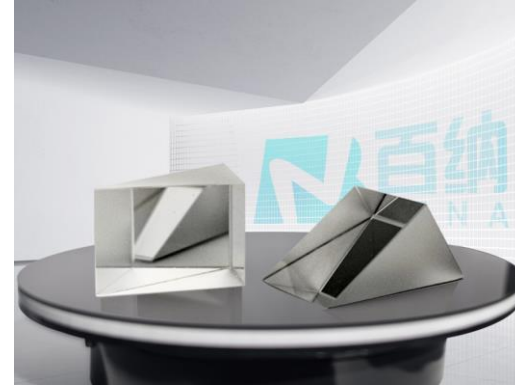
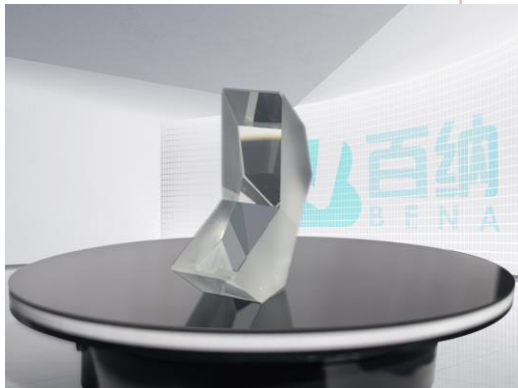
Specifications	Commercial spec.	High precision spec.
Material	UV glass (quartz, fused silica) VIS glass (Schott, CDGM, HOYA, etc.)	
Diameter	$\varnothing 5\text{mm} \sim \varnothing 350\text{mm}$	
Diameter tolerance	$\pm 0.1\text{mm}$	$\pm 0.05\text{mm}$
Focal length tolerance	$\pm 2\%$	$\pm 1\%$
Surface quality	60/40	40/20
Centration	$< 3 \text{ arc min}$	$< 1 \text{ arc min}$
Surface figure	3λ	2λ
Surface irregularity	$1/4\lambda$	$1/10\lambda$
Clear aperture	$> 85\%$ of dia	$> 90\%$ of dia
Bevel	$< 0.2\text{mm} \times 45\text{deg}$	$< 0.1\text{mm} \times 45\text{deg}$
Coating	Up on clients' request	

Commercial optical components - Prisms

Prisms are composed of at least four or more planes, which intersect two by two. For splitting and dispersing light beams. Because our common prisms are dispersive prisms, deflecting or reflecting prisms, rotating prisms and offset prisms. Deflection, offset, and rotation prisms are commonly used in imaging applications; diffuser prisms are dedicated to dispersive light sources.



Specifications	Commercial spec.	High precision spec.
Material	UV glass (Quartz, Fused silica) VIS glass (Schott, CDGM, HOYA, etc.) IR material: (Sapphire, ZnSe, Silicon, etc.) Special material: (SiC)	
Dimension	Ø5mm~Ø650mm	
Dimension tolerance	±0.1mm	±0.05mm
Surface quality	60/40	40/20
Surface flatness	1/4λ	1/10λ
Clear aperture	>85% of dim	>90% of dim
Bevel	<0.2mm x 45deg	<0.1mm x 45deg
Coating	Up on clients' request	



Commercial optical components - Optical flat / window



The windows are used to separate the environment on both sides, such as separating the inside and outside of the instrument, so that the inside and outside of the instrument are isolated from each other, thereby protecting the internal devices. The window is the basic optical element, an optical flat plate that does not change the optical magnification and only affects the optical path in the optical path. The important parameters of the window are light transmittance, surface accuracy, thickness, parallelism, substrate material and other attributes. The window with suitable parameters can be selected according to the specific application. Bena Optics can provide high-precision windows of various materials, such as zinc selenide windows, germanium windows, silicon windows, barium fluoride windows, calcium fluoride windows used in the infrared spectrum; Fused silica windows and sapphire windows in the spectral band; K9 windows in the visible light spectrum, etc. We have a large stock of stock standard products and can also customize optical windows according to specific needs.



Specifications	Commercial spec.	High precision spec.
Material	UV glass (Quartz, Fused silica) VIS glass (Schott, CDGM, HOYA, etc.) IR material: (Sapphire, ZnSe, Silicon, etc.) Special material: (SiC)	
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Bevel	<0.2mm x 45deg	<0.1mm x 45deg
Coating	Up on clients' request	



Commercial optical components - Optical mirror & Filters



Mirror is an optical element that works by the law of reflection and is generally divided into metal mirrors and dielectric mirrors according to the surface coating. The metal mirror is coated with a layer of silicon monoxide or magnesium fluoride after vacuum evaporation of a metal film layer on the surface of a highly polished substrate. In special applications, since the metal will cause loss or oxidation in special environments, it can be replaced by a multilayer dielectric mirror. The reflectivity of the metal layer is not sensitive to the incident angle, while the reflectivity of the dielectric layer has a great relationship with the incident angle. If the angular deviation is large, the reflectivity can vary greatly. For example, the dielectric mirror with AOI=45°, the general angle range is 45°±3°, beyond this angle, the reflectivity will change greatly. In addition, there are some dielectric film layers, the incident angle range is: 0°~45°, but when the incident angle is different, the reflectivity curve will shift, so you need to pay attention when using it.

An optical filter is a device that selectively transmits light of different wavelengths, usually implemented as a glass plane device in the optical path, which are either dyed in the bulk or have interference coatings. The optical properties of filters are completely described by their frequency response, which specifies how the magnitude and phase of each frequency component of an incoming signal is modified by the filter.

Bena Optics provides many kinds of filters, such as

- Bandpass filters
- Short pass filters
- Color Glass Filters
- Birefringent Filters
- Notch filters

- Long pass filters
- Neutral density (ND) Filters
- IR Cut Filters
- IPL Filters / IPL Crystal





Commercial optical components - IR optics



Bena Optics demonstrates exceptional processing capabilities and significant advantages in the field of infrared optics. We are capable of handling a variety of infrared materials, including Silicon, Sapphire, Germanium, and ZnSe, and producing high-quality infrared optical components such as spherical lenses, aspherical lenses, prisms, and windows.

Processing Capabilities

Diverse Material Selection:

- We can process a variety of infrared materials, such as Silicon, Sapphire, Germanium, and ZnSe, to meet different application needs.
- **Silicon:** High transmittance, suitable for the 1.2 to 7-micron band, excellent thermal stability.
- **Sapphire:** Extremely high hardness and wear resistance, wide band transmittance (0.15 to 5.5 microns).
- **Germanium:** High refractive index, suitable for the 8 to 14-micron band, low dispersion.
- **ZnSe:** Wide band transmittance (0.6 to 16 microns), low absorption rate.

High-Precision Processing:

- Utilizing advanced processing technologies and equipment to ensure high precision and quality of each infrared optical component.
- Overcoming the processing challenges of high-hardness materials (such as Sapphire) by using specialized tools and techniques for cutting and polishing.
- Carefully handling brittle materials (such as Germanium and ZnSe) to avoid material damage through meticulous processing.

Wide Range of Products:

- Offering a variety of infrared optical components, including spherical lenses, aspherical lenses, prisms, and windows, suitable for various infrared applications.

Customized Services:

- Providing customized infrared optical component solutions based on specific customer needs to ensure optimal performance and compatibility.

Strict Quality Control:

- Implementing a rigorous quality management system to ensure that each product meets the highest industry standards, providing reliable performance and long-lasting durability.

Ultra-high precision optics - Precision Aspherical Lens

The aspherical lens is meticulously optimized to achieve superior imaging performance. A primary advantage of aspheric lens lies in their ability to effectively correct spherical aberrations. The incorporation of aspheric lens can significantly reduce the total number of components within an optical system, resulting in a more compact and powerful structural design compared to analogous systems utilizing spherical lenses.

- **100% digital process**

State-of-the-art processing equipment support, including CCOS(Computer controlled optical surfaces), IBF (Ion beam figuring), MRF (Magnetorheological figuring).

- **Superior Standard Accuracy**

Bena Optics is certified to ISO 9001 and consistently endeavors to refine and enhance its processes. From optical grinding to high-end finishing, metrology, and coating, Bena Optics elevated quality and precision while remaining mindful of the financial interests of its clientele. Aspheric products are manufactured in compliance with RoHS and REACH regulations, ensuring the certification and assurance of wavefront quality.

- **Tailored Solutions**

Bena Optics proficiency encompasses a broad spectrum of products—from high-quality aspherical lenses to aspherical cylinders/mirrors—and ultra-precise optics. To the innovative variety available customized solutions tailored specifically for your needs are offered.

- **Realizing Vision**

With this mission statement guiding us forward, we continually push the boundaries of what is achievable in optics while setting new benchmarks within this field. Leverage our extensive experience in designing, manufacturing & coating optical components alongside precise measurement/documentation during assembly processes for optimal characterization.



Ultra-high precision optics - Silicon carbide (SiC) Galvo Scanning Mirror

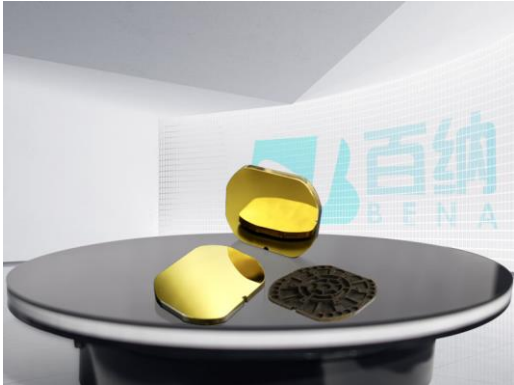


Silicon carbide is a very hard material similar to diamond, with good thermal conductivity and chemical stability. Silicon carbide mirrors take advantage of these properties of silicon carbide materials to achieve light reflection and focusing. Silicon carbide mirror is the core component of high-performance optical system, and its performance is very important to the observation effect.

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improve the resolution

silicon carbide mirror has high specific stiffness and excellent thermal stability, these characteristics make it can obtain excellent image quality over a wide spectrum, thus greatly improving the resolution of the telescope or satellite



2

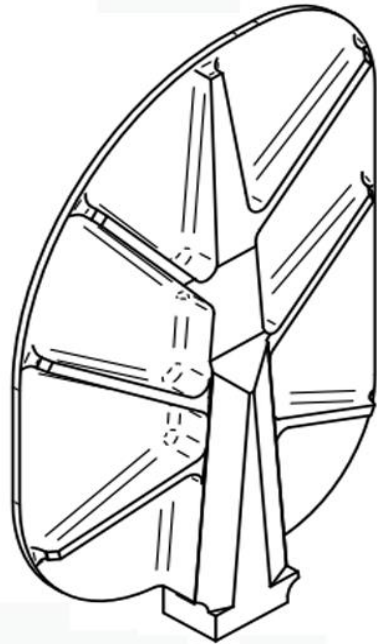
material properties

As a new generation of optical mirror material, silicon carbide has high specific stiffness, high thermal conductivity, low thermal expansion coefficient and other excellent comprehensive properties, these characteristics make silicon carbide mirror in the environmental adaptability at the same time, can obtain excellent imaging quality in a wide spectrum.



Ultra-high precision optics - Lightweight service

With the rapid development of space optical technology, the resolution of space optical remote sensor has been improved, and the aperture of reflective space optical primary mirror is required to increase continuously. Lightweight design, analysis and manufacturing of large aperture space optical mirror has become an indispensable key support technology active in the forefront of modern science and technology. Bena Optics is a microcrystalline glass (Zerodur) commonly used for space optical mirrors. SiC and fused quartz for lightweight processing, to apply to the space ultra-low temperature environment of elliptical plane mirror as an example, CAD optimization lightweight structure, finite element analysis, flat light mirror in the state of self-weight mirror deformation is $0.014\lambda(\text{rms})$, in the ultra-low temperature -150°C environment mirror deformation is $0.002\lambda(\text{rms})$, the numerical control system in the graphic way to control the actual lightweight machining, using chemical methods to eliminate the stress and micro cracks generated in the process of machining, the final surface shape accuracy of $0.022\lambda(\text{rms})$.



A large industrial robotic arm is shown in a factory setting, positioned over a worktable. The arm is white and blue, with various cables and sensors attached. The background is a light blue wall. A large white number '03' is overlaid on the right side of the image.

03



Bena optics' capacity

Cutting-edge processing equipment and technology

Ultra- high precision optical components manufacture in China

State-of-the-art process equipment - Ring polishing machine



The most important feature of the ring polishing machine is high processing accuracy and outstanding efficiency, which can stably achieve the accuracy requirements of the large aperture component ($\Phi 400\text{-}2000\text{mm}$) surface shape $1/20\lambda$. The products of the ring throwing machine have been put into major national projects in the fields of national defense and aerospace.

CNC (Computer Numerical Control) - State-of-the-art process equipment

The application in optical polishing greatly improves the manufacturing accuracy and efficiency of optical components. Here are some of the main applications of CNC technology in optical polishing: High precision control: CNC technology can achieve high precision control of the position of the polishing tool and the workpiece, ensuring that every step of the polishing process can achieve the expected accuracy. This is essential for the surface quality and shape accuracy of optical components.



State-of-the-art process equipment - IBF(Ion Beam Figuring)

The main advantage of IBF is the non-contact machining method, which avoids the potential damage caused by mechanical tool contact in traditional methods. IBF is particularly suitable for aspherical machining, providing extremely high stability and accuracy and preventing sub-surface damage.

Ion beam polishing of optical components based on CCOS principle The use of ion beam instead of the traditional polishing head, through the ion sputtering effect between the ion beam and the optical component to remove the surface material of the optical component, based on stable ion source technology and precise numerical control technology, ion beam polishing also has the characteristics of high precision and high convergence.



MRF (Magnetorheological Finishing) - State-of-the-art process equipment



Magnetorheological Finishing (MRF) is an ultra-precision machining method using the rheological properties of magnetorheological polishing fluid in a magnetic field. The magnetorheological fluid is mainly composed of discrete micron magnetic particles, carrier fluid and surfactant. It has the characteristics of magnetic properties, rheology and stability.

When there is no applied magnetic field, the magnetic particles are distributed irregularly, and the magnetorheological fluid is a flowable liquid. Under the action of the applied magnetic field, the magnetic particles are distributed in chain shape, and their rheological properties change sharply (millisecond order), showing solid like properties. After the magnetic field is removed, it will immediately return to the original liquid body properties.

State-of-the-art process equipment - CCOS (Computer Controlled Optical Surface)

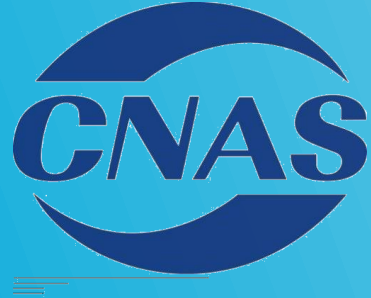
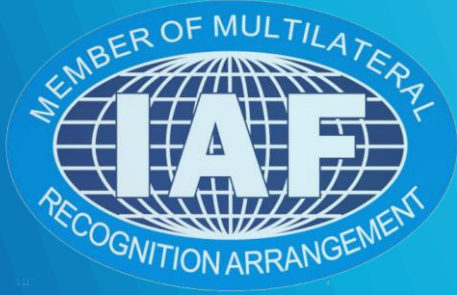


Computer Controlled Optical Surface (CCOS) polishing technology was adopted. According to the established mathematical model, the material removal amount is controlled by controlling the motion path, relative pressure and resident time of the grinding head on the machined surface. It has higher polishing efficiency than the traditional polishing process, and has higher surface shape accuracy index.

High precision coating machine - State-of-the-art process equipment

Bena Optics has advanced optical vacuum coating equipment. The system units and the overall structure are well suited to the requirements of the optical film production process and are suitable for coating various film systems such as anti-reflection films, bandpass films and cut-off films. It is equipped with high precision film thickness control system, excellent performance of the electron gun, high degree of automation of the coating control system, is the ideal plating equipment for high precision optical film.





04

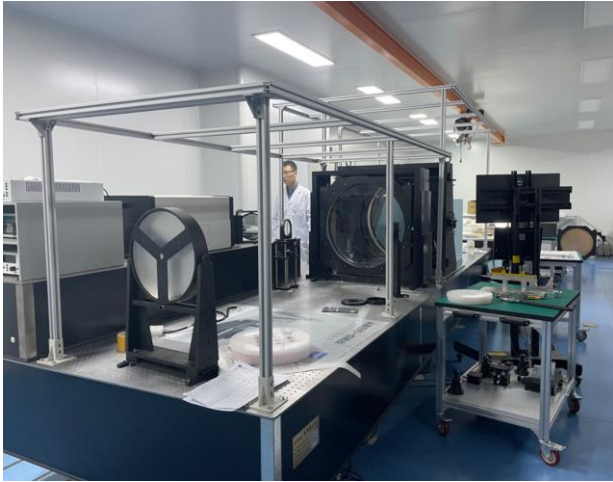


Quality management control

Advanced inspection equipments

Accurate test data management

Certified ISO9001:2015 Quality management system



The Zygo laser interferometer is renowned in the optical inspection field for its exceptional precision and reliability. By utilizing the Zygo laser interferometer, Bena Optics can achieve sub-nanometer level surface measurements and wavefront analysis, ensuring that each optical component meets the highest quality standards. This advanced inspection technology allows Bena Optics to quickly identify and correct even the smallest manufacturing defects, continuously optimizing production processes to enhance product consistency and performance. This rigorous quality management control system enables Bena Optics to stand out in the highly competitive optical market, earning the trust and praise of its customers.

- **High Precision:**

Achieves sub-nanometer level surface measurements and wavefront analysis.

- **Reliability:**

Provides stable and consistent inspection results.

- **Quick Defect Identification:**

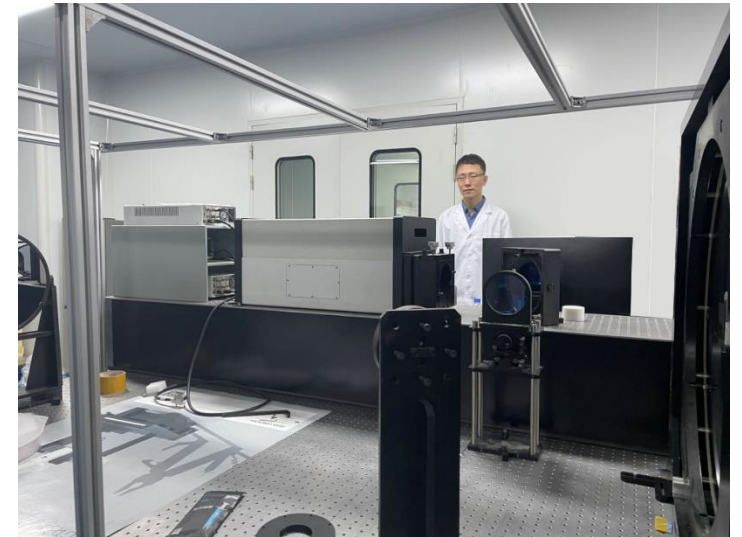
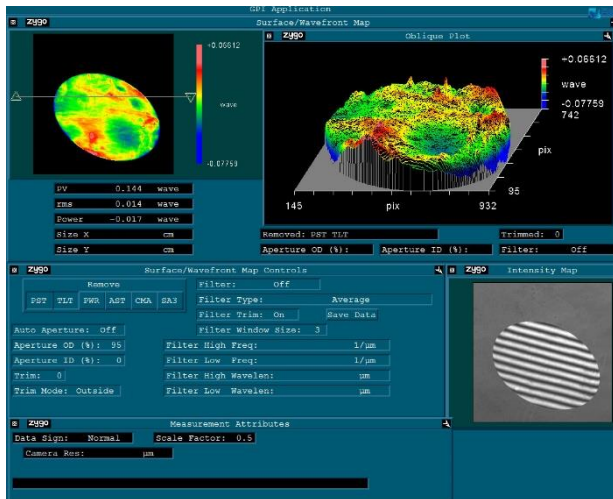
Rapidly detects and corrects minor manufacturing defects.

- **Production Optimization:**

Continuously improves production processes, enhancing product consistency and performance.

- **Quality Assurance:**

Ensures each optical component meets the highest quality standards.



Quality management - CMM (Coordinate Measuring Machine)

With its ultra-high precision and excellent dynamic performance, the CMM is particularly suitable for fast data acquisition and high-speed scanning technologies, thereby increasing the efficiency of process control.

1. High-Precision Geometric Measurement:
2. Surface Quality Assessment:
3. Complex Surface Measurement:
4. Automated and Efficient Inspection:
5. Data Analysis and Reporting:
6. Non-Contact Measurement:



Centering instrument - Quality management



The centering instrument is a critical tool in the optical inspection process, offering unparalleled accuracy in aligning optical components. At Bena Optics, the use of advanced centering instruments ensures that each lens and optical element is perfectly aligned, minimizing aberrations and maximizing performance. This precision alignment capability allows Bena Optics to produce high-quality optical systems with superior image clarity and consistency. By integrating centering instruments into our rigorous quality control processes, Bena Optics demonstrates its commitment to excellence and its ability to meet the most demanding optical standards, thereby reinforcing our reputation as a leader in the optical industry.

Lupho Scan 420SD Surface profile - Quality management



LuphoScan Measurement platform is an interferometric scanning measurement system based on Multi-wavelength interference technology (MWLI). LUPHO Scan is a measurement device based on MWLI method technology (multi-wavelength interferometer). Designed for precision non-contact 3D shape measurement of rotationally symmetric optical components such as aspherical lenses, it is possible to measure the true shape of 3D optical components at the nanoscale. It is designed for precision non-contact 3D shape measurement of rotationally symmetric surfaces, such as aspherical optical lenses. The LuphoScan platform enables easy measurement of aspherics, spheres, planes and free-form surfaces. The main features of the instrument include high speed measurement, high flexibility measurement of special surfaces (e.g., contours of inflection points or flat cusps). Thanks to the multi-wavelength Interference Technology (MWLI) sensor technology, various surface types such as transparent materials, metal parts and abrasive surfaces can be scanned. High-speed non-contact 3D optical surface shape measuring instrument/profiler capable of measuring 120/260/420/600mm diameter optical components. Main application field LuphoScan measurement systems are used to measure the 3D topologies of rotatable symmetric surfaces, such as concave spherical lenses and convex spherical lenses. The measuring table is designed to ensure that most lenses are measured without any spherical deviation, rare top shape (flat head), tilt, or emission point diagram. In addition to standard measurement applications, LuphoScan, the special extension tool of the LuphoScan measurement platform, can also be used to measure a variety of optical element features. The tool can assist in measuring lens thickness, wedge and eccentricity errors. In addition, additional add-on software types enable direct measurement of discontinuous lenses, such as segmented surfaces including rectangular components, annular lenses, surfaces with diffraction steps, and conical lenses.

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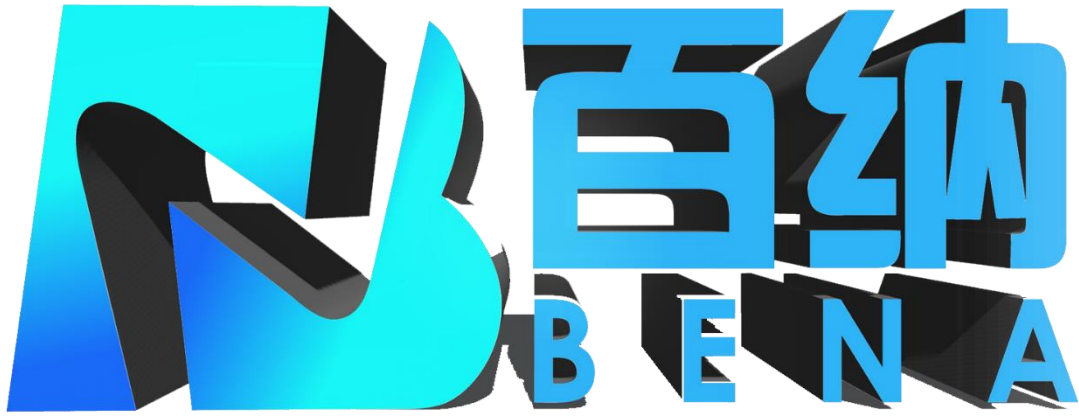


Choose Bena Optics

Advanced inspection equipments

Accurate test data management

Certified ISO9001:2015 Quality management system



Choosing Bena Optics means opting for unparalleled quality and precision in optical components. Here are a few key reasons why

- **Advanced Technology:** We utilize state-of-the-art equipment, such as Zygo laser interferometers and centering instruments, to ensure the highest levels of accuracy and reliability in our products.
- **Rigorous Quality Control:** Our stringent quality management system ensures that every optical component meets the most demanding industry standards, providing you with consistent and superior performance.
- **Expertise and Experience:** With years of experience in the optical industry, our team of skilled professionals is dedicated to continuous improvement and innovation, ensuring that we stay at the forefront of optical technology.
- **Customer Satisfaction:** We prioritize our customers' needs, offering tailored solutions and exceptional support to ensure complete satisfaction with every purchase.
- **Competitive Advantage:** Our commitment to excellence and precision gives you a competitive edge, whether you are in research, manufacturing, or any other field requiring high-quality optical components.

Choose Bena Optics for a partner you can trust in delivering top-tier optical solutions.

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软件名称: 92NA高精度光学产品抛光控制软件
V1.0

著作权人: 长春百纳光电产品有限公司

开发完成日期: 2017年07月07日

首次发表日期: 未发表

权利取得方式: 原始取得

权利范围: 全部权利

登记号: 2017SR1091828

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软件名称: EDNA全球设备测量系统
V1.0

著作权人: 长春百纳光电产品有限公司

开发完成日期: 2019年08月08日

首次发表日期: 未发表

权利取得方式: 原始取得

权利范围: 全部权利

登记号: 2019SR1289448

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软件名称: 92NA全球曲面检测软件
V1.0

著作权人: 长春百纳光电产品有限公司

开发完成日期: 2019年09月03日

首次发表日期: 未发表

权利取得方式: 原始取得

权利范围: 全部权利

登记号: 2019SR1386404

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软件名称: 92NA高精度光学元件材料理论系统
V1.0

著作权人: 长春百纳光电产品有限公司

开发完成日期: 2017年11月22日

首次发表日期: 未发表

权利取得方式: 原始取得

权利范围: 全部权利

登记号: 2017SR1087038

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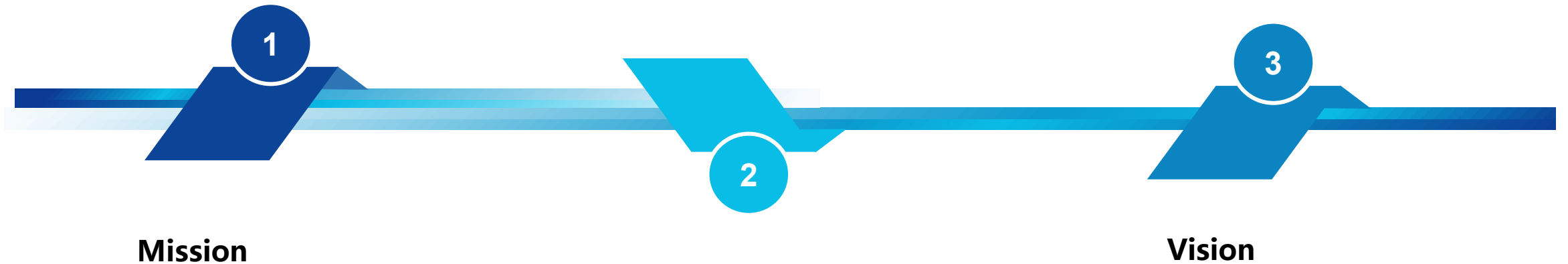
Vision, Mission & Core values

Team spirit brings about brilliance, innovation paves the way for the future, responsibility fulfills dreams.

Integrity-based trust, exceptional quality earns respect, win-win concept shapes the future.

Hand in hand, we achieve brilliance; Forging ahead, innovation guides the future.

Core values



Mission

Whether the client requires commercial optical lenses, ultra-high precision optical components, or engineering expertise via consulting, Bena Optics' vision is to offer effective and economical solutions without compromising on quality. Meanwhile, provide excellence in the highest quality custom optical solutions, and exceed client expectations.

Vision

Driven by innovation and oriented towards quality, Bena Optics aspires to establish an outstanding brand that will propel the progress of optoelectronics and render the world of optoelectronics even more thrilling due to Bena.

Bena Optics hold that a company should be as tolerant / encompassing as the vast ocean which admits hundreds of rivers and should draw upon other's strengths.



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