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Laser Components Catalogue

Pursue Excellence and Innovation

HO

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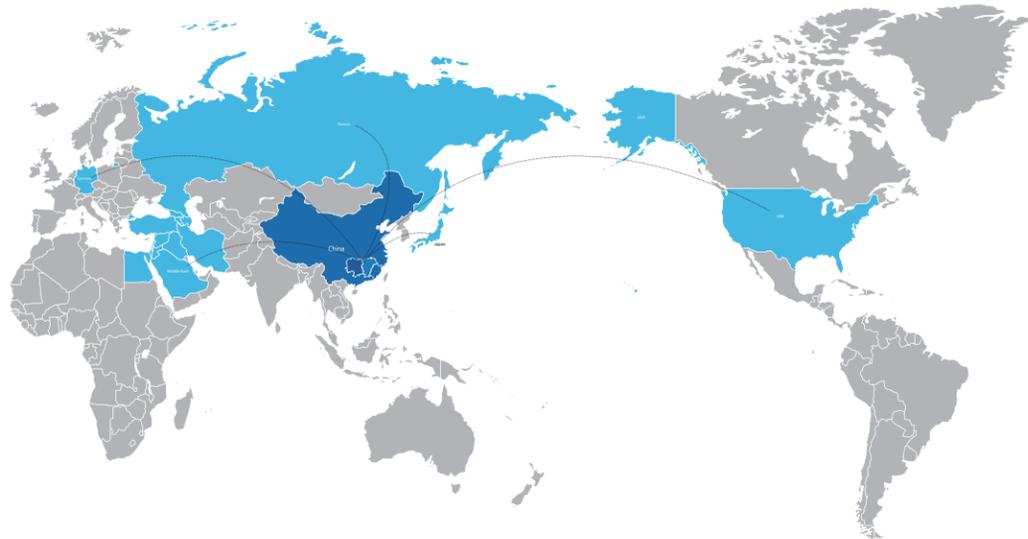
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About Us



Founded in 2005, our company has consistently focused on research and manufacturing in the optoelectronics field. Our core products include optical systems, components, devices, and precision elements, widely used in industrial lasers, optical communications, biomedical applications, artificial intelligence, semiconductors, and defense. Our network of partners extends across the United States, Japan, Russia, the European Union, ASEAN, and the Middle East.

Guided by the spirit of "Pursue Excellence and Innovation," we have achieved significant breakthroughs in critical technologies, established a precision optical manufacturing platform, and integrated a comprehensive technological system encompassing optical components to assemblies. We provide one-stop optical solutions to customers both domestically and internationally.





50+ countries and regions served



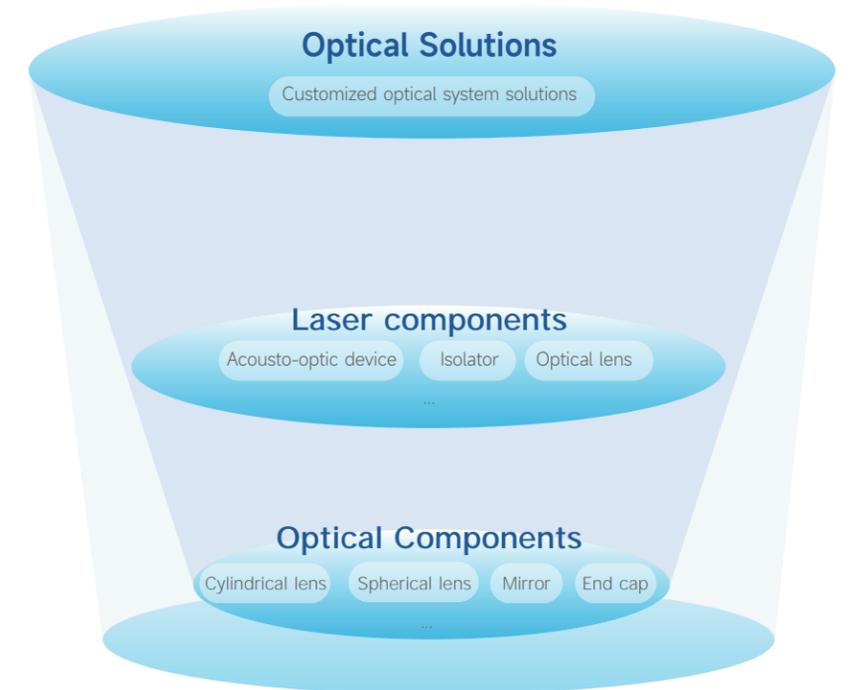
70+ million optical components annually



10,000+ partner companies

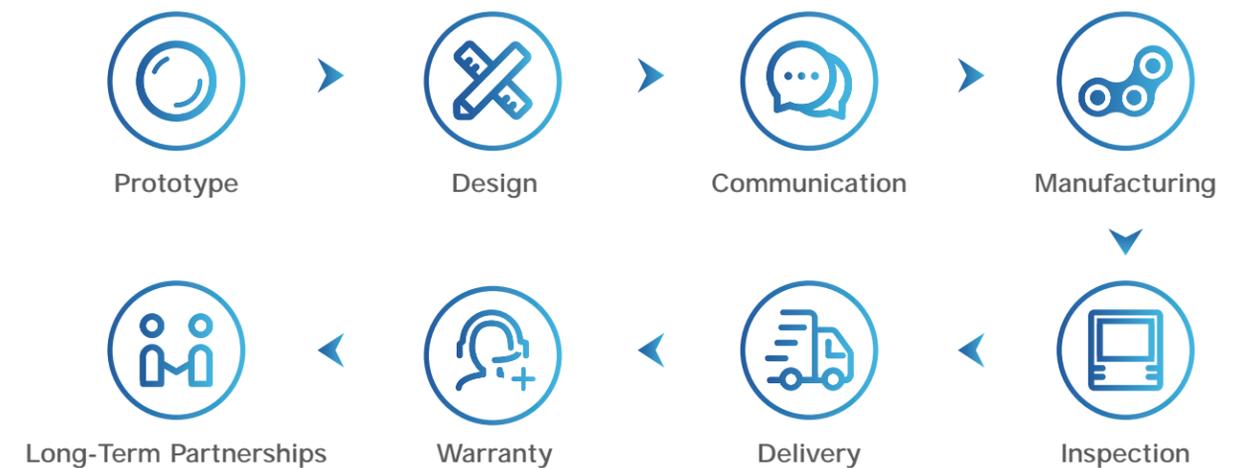
Laser Applications

Optical components are essential in industrial lasers for controlling, adjusting, and optimizing laser beam characteristics for various processing and measurement application.



With decades of experience, Dayoptics, Inc. excels in precision cold processing, crystal processing and high-end optical coatings. Our stable, high-quality products and strong relationships with leading global companies highlight our core competitive advantage.

One-stop Optical Solution



Company Capability

Production Capability

Wide range of products with comprehensive category

- > Materials
Optical glass, Fused Silica, Crystals, and special materials
- > Wavelength
deep ultraviolet (DUV) to far infrared (FIR).
- > Coating
AR, HR, Bandpass filters, Dichroic splitters, Polarizing beamsplitter, Infrared Optics, IR Cut Filter, SWPF, LWPF, Metallic, etc.

R&D

- > **2 R&D Centers** in Changsha & Wuxi. R&D personnel make up **20%**
- > Comprehensive Development of Laser Application Fields

QC Capability

Quality Control System

- > Incoming Quality Control (IQC) + In-Process Quality Control (IPQC) + Final Quality Control (FQC) + Outgoing Quality Control (OQC).

Systematic Testing Platform

- > LIDT Test
- > UV-Vis-NIR Measurement Spectrophotometer
- > ZYGO Interferometer
- > Acousto-Optic Modulation Performance Test Platform
- > QCS Spot Testing Platform
- > Optical Power Testing Platform Control (OQC).



LASER COMPONENTS CONTENTS

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Fiber-Coupled Acousto-Optic Modulator (FAOM)

Description

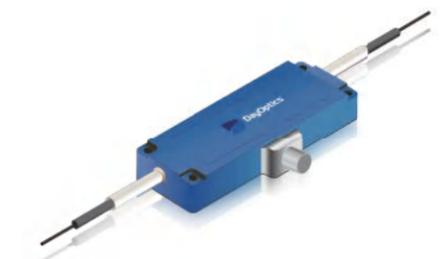
High-power, high-speed Fiber-Coupled Acousto-Optic Modulator are one of the core components of all-fiber laser links. They offer the advantages of ultra-high extinction ratio, low insertion loss, and fast rise time, enabling pulse laser selection and modulation. These are suitable for applications in optical communication, laser technology, and fiber optic sensing. Dayoptics delivers top-quality crystals, advanced machining, expert coatings, and ensure meticulous fiber coupling to guarantee outstanding optical performance. Moreover, we offer customized design and production services to address the specific needs of our clients.

Applications

Ultrafast Lasers, Industrial Lasers, Laser Sensing

Specifications

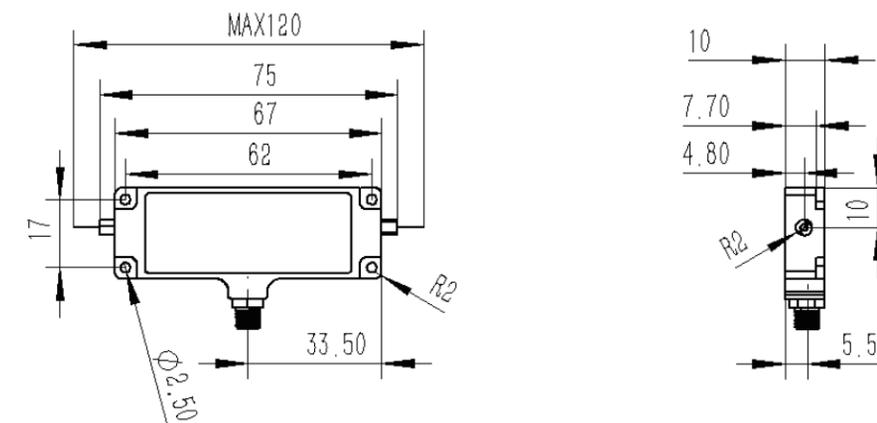
Wavelength (nm)	Frequency (MHz)	Extinction Ratio (ER/PDL)	Rise-time/fall-time (10% - 90%)	Average Optical Power Handling (w)	Insertion Loss (dB)	Peak Optical Power Handling (kW)	Acoustic Velocity (m/s)
1064	80	18dB/0.15dB	45	3	2	3	4200
1064	100	18dB/0.15dB	45	3	2	3	4200
1064	200	18dB/0.15dB	10	3	3	3	4200



Material: TeO₂

Dayoptics offers acousto-optic devices and RF drivers tailored to customer specifications, including wavelength and frequency customization, performance optimization, and specially designed acousto-optic devices and RF drivers to meet the diverse needs across various fields.

Mechanical Dimensions(mm)



Free Space AOM

Description

Acousto-optic modulators, which utilize the acousto-optic effect to achieve optical modulation, employ acoustic waves generated by a modulation signal within the modulator to alter the device's refractive index. This, in turn, modifies the phase of light passing through the device, achieving the modulation objective.

Dayoptics offers acousto-optic modulators made from TeO₂ material, characterized by high laser damage thresholds, high power handling, and high extinction ratios. Our standard product line includes key operating wavelengths such as 1030 nm and 1064 nm, with modulation frequencies available in 80, 100, 120, 150, and 200 MHz. Additionally, our free-space series features various aperture sizes and can be customized to meet specific customer requirements.

Applications

Ultrafast Lasers, Industrial Lasers, Laser Sensing

Specifications

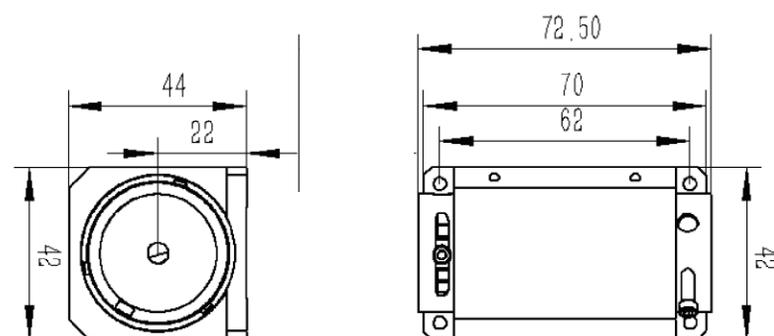
Wavelength (nm)	RF Frequency (MHz)	Clear Aperture (L*H:mm)	Diffraction Efficiency (%)	Optical Power Density (W/mm ²)	RF Power (W)	Input Impedance (Ω)
1064	80	0.7	85	250	1.8	50
1064	100	0.7	85	250	1.8	50
1064	120	0.7	85	250	1.8	50
1064	150	0.5	85	250	2.5	50
1064	200	0.3	70	250	2.5	50

Material: TeO₂

Dayoptics offers acousto-optic devices and RF drivers tailored to customer specifications, including wavelength and frequency customization, performance optimization, and specially designed acousto-optic devices and RF drivers to meet the diverse needs across various fields.



Mechanical Dimensions(mm)



Free Space Isolators

Description

Free space isolators can be categorized into polarization-dependent and polarization-independent isolators. As critical components in fiber lasers, they are primarily composed of a polarizing beam splitter and a Faraday rotator. These isolators are typically used to prevent the effects of back-reflected noise or interference on the light source or optical system, effectively maintaining the stability of the optical system.

Dayoptics selects high-quality magneto-optic crystals, offering low absorption, high extinction ratio, and low loss, ensuring exceptional and reliable product performance. We also provide customized design and manufacturing services to meet the specific needs of different applications.

Applications

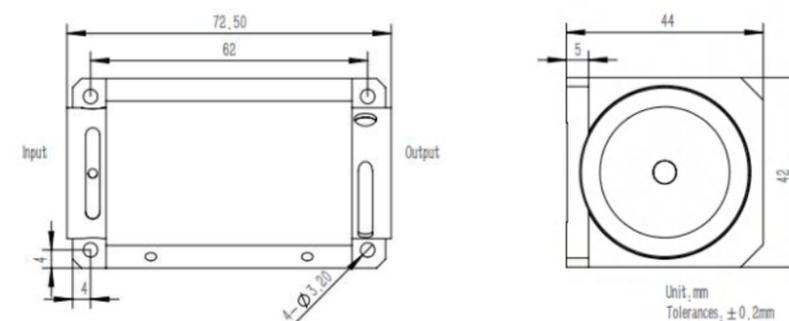
Ultrafast Lasers, Industrial Lasers, Laser Sensing, Biomedical Equipment, OCT system

Specifications

Center Wavelength	1030nm, 1064nm (customizable)
Minimum Isolation (λc, 23°C)	25dB
Maximum Isolation (λc, 23°C)	> 30dB
Minimum Extinction Ratio	25dB
Insertion Loss (λc, 23°C)	0.3dB
Maximum Insertion Loss (λc, 23°C)	0.4dB
Peak Transmission	> 95%
LIDT	10J/cm ²
Tilt Angle (λc, 23°C)	45°
Clear Aperture	2-5mm
Max Average Power	20, 50, 100W
Operating Temperature	10-30°C
Storage Temperature	0-60°C



Mechanical Dimensions(mm)



Inline Isolators

> Description

Inline isolators can be categorized into non-polarization-maintaining and polarization-maintaining types. These laser components are engineered to ensure the stable transmission of linearly polarized light while preserving its polarization state. They are mainly composed of a polarizing beam splitter, a Faraday rotator, and a pair of collimators.

Dayoptics' in-line isolators feature high isolation, robust power handling, high return loss, and low insertion loss, and are known for their stability and reliability. We also provide customized design and manufacturing services tailored to the specific requirements of various applications.

> Applications

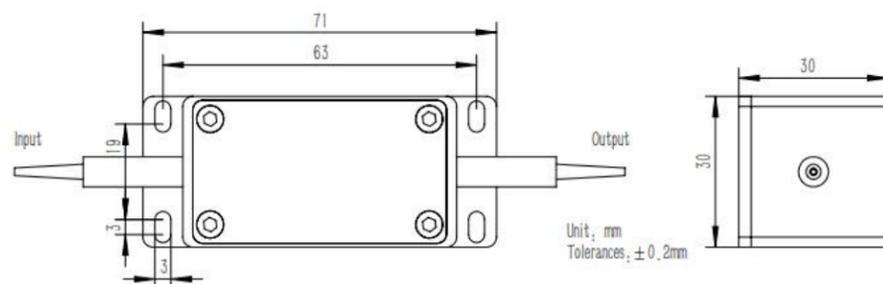
Ultrafast Lasers, Industrial Lasers, Laser Sensing, Biomedical Equipment, OCT system

> Specifications

Center Wavelength (λ_c)	1030, 1064nm (customizable)
Operating Wavelength	± 10 nm
Maximum Isolation	30dB
Minimum Isolation (λ_c , 23°C)	28dB
Typical Insertion Loss (λ_c , 23°C)	0.5dB
Maximum Insertion Loss (λ_c , 23°C)	0.7dB
Return Loss (Input/Output)	50dB
Minimum Extinction Ratio	22dB
Maximum Average Optical Power	10, 20, 30W
Fiber Type	PM980 or Customer-Specified Model
Operating Temperature	10-30°C
Storage Temperature	0-60°C



> Mechanical Dimensions(mm)



Faraday Rotators

> Description

Faraday rotators provide non-reciprocal rotation while maintaining the beam's linear polarization. When light passes through the Faraday rotator in one direction, the polarization state rotates by 45°; in the opposite direction, the polarization state rotates by another 45° in the same direction relative to the magnetic field. This allows the return light to be effectively blocked when paired with a polarizer.

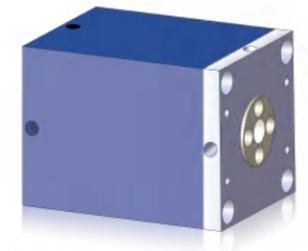
Dayoptics offers Faraday rotators with high reliability and minimal M² degradation. Utilizing a high damage threshold process, we customize a wide range of Faraday rotators to meet the specific requirements of various applications.

> Applications

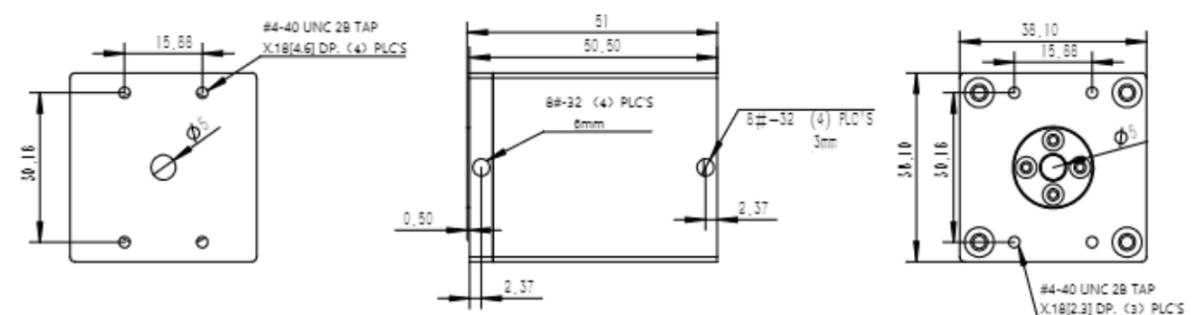
Ultrafast Lasers, Industrial Lasers, Laser Sensing, Biomedical Equipment, OCT system

> Specifications

Center Wavelength	1030nm (customizable)
Operating Wavelength	± 10 nm
Typical Insertion Loss	0.1dB
Maximum Insertion loss	0.2dB
Clear Aperture	5mm
Transmission	$\geq 98\%$
Extinction Ratio	≥ 30 dB
Tilt Angle	45 $\pm 0.5^\circ$
Withstand Power	75W
Minimum Return Loss	50dB
Operating Temperature	10-30°C
Storage Temperature	0-60°C



> Mechanical Dimensions(mm)



Output Free Space Isolators

› Description

A collimated output fiber isolator is a device that has a fiber input and a free-space collimated beam expansion output, serving as an essential component at the laser output port of fiber lasers.

Dayoptics' standard output isolators apply high-quality crystals and optical components, composed of a collimator, polarizing beam splitter, Faraday rotator, and beam expander. These isolators provide an output beam with excellent beam quality and a small divergence angle. We offer customized design and manufacturing services to meet specific parameter requirements based on customer needs.

› Applications

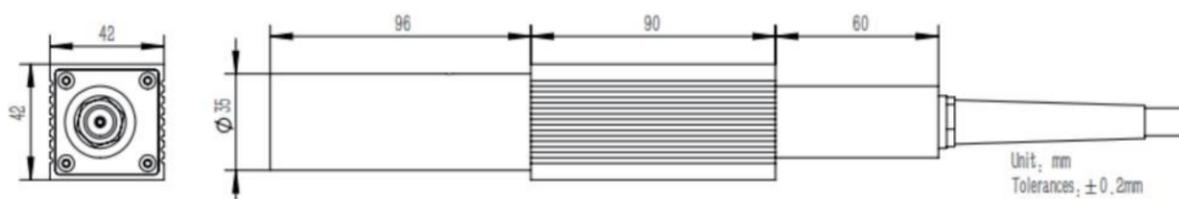
Ultrafast Lasers, Industrial Lasers, Laser Sensing



› Specifications

Center Wavelength	1064nm (customizable)
Operating Wavelength	±5nm
Insertion Loss	0.4dB
Peak Isolation	35dB
Minimum Isolation	28dB
Typical Output	93%
Minimum Return Loss	50dB
Output Beam Diameter	5±0.5, 6±0.5, 7±0.5 (customizable)
M ² Degradation Rate	< 10%
Ellipticity	> 90%
Peak Power	10, 20kW (customizable)
Maximum Average Optical Power	100, 150, 200W
Fiber Type	Customer-Specified Model
Operating Temperature	10-50°C
Storage Temperature	0-60°C

› Mechanical Dimensions(mm)



QCS

› Description

QCS fiber collimators are compact fiber-coupled collimation output components specifically designed for direct semiconductor and fiber lasers. They enable precise beam collimation, beam expansion, or long-focus low-reflection spatial output.

Dayoptics' QCS collimators provide excellent beam quality, stable performance, and high reliability. We offer customized design and manufacturing services to meet specific parameter requirements based on customer needs.

› Applications

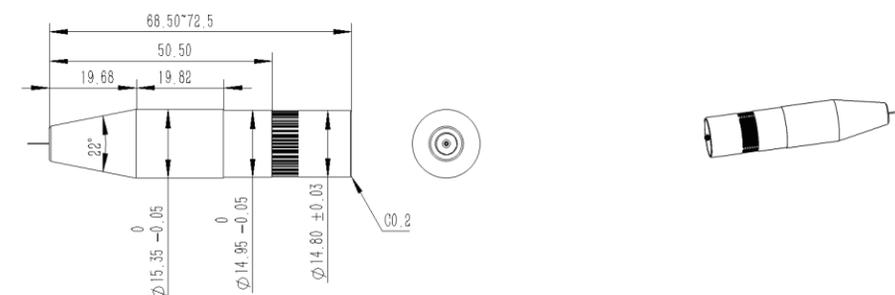
Ultrafast Lasers, Industrial Lasers, Laser Sensing



› Specifications

Center Wavelength	1064nm (customizable)
Operating Wavelength Range	±5nm
Spot Size	5-7mm (customizable)
Spot Ellipticity	92%
Transmission	98%
Beam Divergence Angle	< 0.5mrad
Maximum Output Power	20, 30, 50, 100W
M ² Degradation Rate	10%
Maximum Insertion Loss (@1064nm)	0.3dB
Maximum Insertion Loss (@650nm)	1.5dB
Minimum Return Loss	50dB
Output Beam Diameter	6±0.5mm or Customer-Specified Model
Maximum Tensile Load	5N
Fiber Type	Customer-Specified Model
Operating Temperature	0-50°C
Storage Temperature	-5-70°C

› Mechanical Dimensions(mm)



QBH

> Description

QBH is a specialized interface used to connect high-power fiber lasers with output fibers or transmission fibers. It is designed to handle high-power density laser beams while providing a quick, reliable, and safe connection.

Dayoptics' QBH interfaces feature high power handling capacity, excellent sealing, stable performance, and high reliability. We also offer customized QBH interface solutions to meet the specific needs of different customers in fiber laser applications.

> Applications

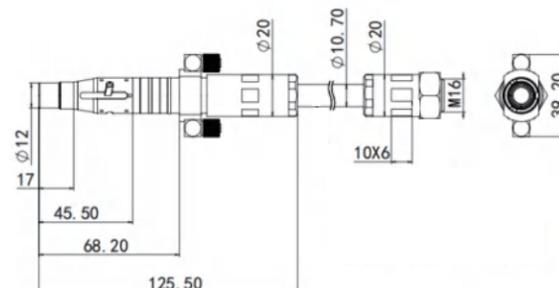
Ultrafast Lasers, Industrial Lasers, Laser Sensing

> Specifications



Operating Wavelength	1030-1090nm (Customizable)
Transmission	99%
Minimum Transmission	98%
Maximum Withstand Power	3000W (Customizable)
Impulse Power	Max.10kW@10ns, Max.50kW@1ms, Max.1MW@50ns
Beam Pointing Accuracy	17mrad
Ellipticity	92%
Maximum Tensile Load	5N
Packaging Materials	Stainless Steel, Aluminum, Copper
Operating Temperature	10-50°C
Storage Temperature	-10-75°C
Maximum Water Pressure	8bar
Bare Fiber Length≤15m	Fiber Length-10cm
15m≤Bare Fiber Length ≤30m	Fiber Length-20cm

> Mechanical Dimensions(mm)



F-theta Lenses

> Description

The 355nm UV laser F-theta lens focuses the collimated laser beam to a single point, increasing the energy density of the laser beam. When the direction of the incident laser beam changes, the F-theta lens maintains a consistent spot size and energy density, allowing the laser beam to process points on different material positions.

Dayoptics' F-theta lenses feature low laser energy loss, high damage resistance, and superior beam quality. We also offer customized design and manufacturing services to meet specific parameter requirements based on customer needs.

> Applications

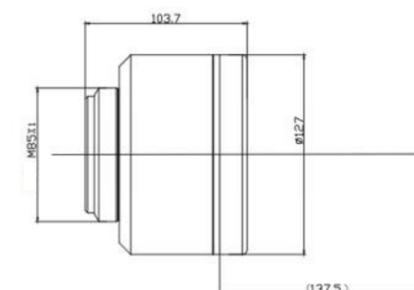
Ultrafast Lasers, Industrial Lasers, Biomedical Equipment, OCT system



> Specifications

Center Wavelength	355nm (customizable)
Operating Wavelength	±10nm
Effective Focal Length	100mm
Maximum Input Beam	10.0mm
Working Distance	130mm
Scan Field	35mm×35mm (Or customize 50mm×50mm, 100mm×100mm)
Telecentricity error	<1°
Transmission	> 94%
Lens Material	Fused Silica
Suitability for ultrashort pulses	Yes
LIDT	0.2J/cm2@15ps, 355nm, 800kHz (estimated value)
Weight	2.45kg

> Mechanical Dimensions(mm)



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Windows

Product Description

Optical windows are optical glass with precisely parallel polished surfaces. Dayoptics offers both plane and wedge-shaped windows in various substrate materials and sizes. Customization services are available to meet specific customer requirements.

Advantage

Protection, high transmission, excellent wavefront transmission

Application

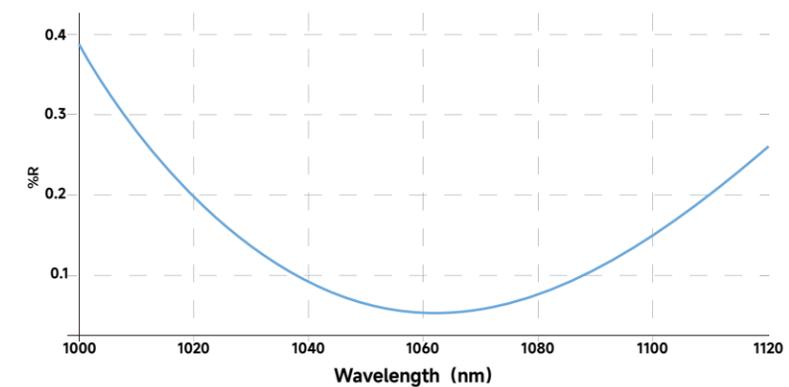
Laser welding, laser cutting, laser cleaning



Specification

Material	C7980 (or customer-specified material)
Product type	Windows
Dimensions	φ6.35-φ50.8mm
Clear Aperture	90%
Surface Quality	10-5
Coating	1030-1080nm
Damage Threshold	15J/cm ²
Operating Power	3000, 6000, 12000W

Typical Coating Curve (Example)



Cylindrical Lens

Product Description

Dayoptics' cylindrical lenses are designed for applications requiring one-dimensional beam shaping. Cylindrical lenses are available in plano-concave and plano-convex configurations, used for diverging or converging light beams. The substrate materials include N-BK7 glass, UV-grade fused silica, or customer-specified materials. A wide range of sizes is available and can be customized according to customer needs.

Advantage

High laser damage threshold, low absorption, superior surface quality, wide operational wavelength range, compatible with automated installation

Application

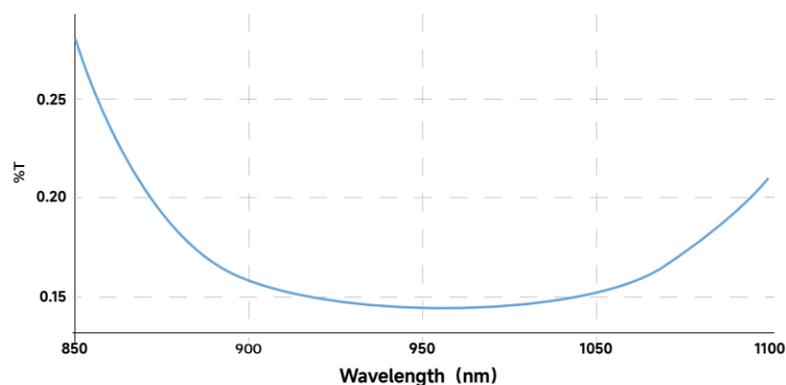
High Power Pump Sources

Specification



Material	C7980, BK7, SF11 (or customer-specified material)
Product type	Plano-Concave Cylindrical Lens, Double-Convex Cylindrical Lens, Double-Concave Cylindrical Lens, Meniscus Cylindrical Lens
Dimensions	3mm-30mm
Curvature	R2-R60
Surface Quality	40-20 or better
Clear Aperture	90%
Coating	400-500nm, 900-1000nm, 1310nm, 1550nm or other wavelengths
Damage Threshold	15J/cm ²
Operating temperature	≤60°C@600W

Typical Coating Curve (Example)



Mirrors

Product Description

Mirrors are essential components in laser beam transmission systems. Dayoptics offers optical mirrors suitable for ultraviolet, visible, and infrared wavelengths, with an average reflectivity exceeding 99.9%. Appropriate reflective substrate materials can be selected according to the corresponding wavelengths.

Advantage

High laser damage threshold, low absorption, superior surface quality, wide operational wavelength range, compatible with automated installation

Application

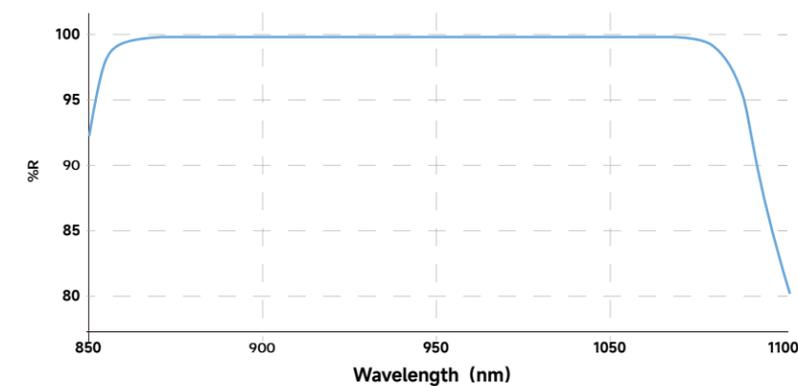
High Power Pump Sources

Specification



Material	BK7, C7980 (or customer-specified material)
Product type	Plano Mirrors
Dimensions	2mm-30mm
Surface Quality	40-20
Clear Aperture	90%
Coating	400-500nm, 900-1000nm, 1310nm, 1550nm or other wavelengths
Damage Threshold	15J/cm ²
Operating temperature	≤60°C@600W

Typical Coating Curve (Example)



Optical Assembly

Product Description

Polarization optical components are designed to alter the polarization state of incident light. Dayoptics' polarization optical components are suitable for UV, visible, and infrared spectral ranges. Our products include polarization beam combiners, polarizers, zero-order waveplates, multi-order waveplates, achromatic waveplates, and more.

Advantage

High laser damage threshold, low absorption, superior surface quality, wide operational wavelength range, compatible with automated installation

Application

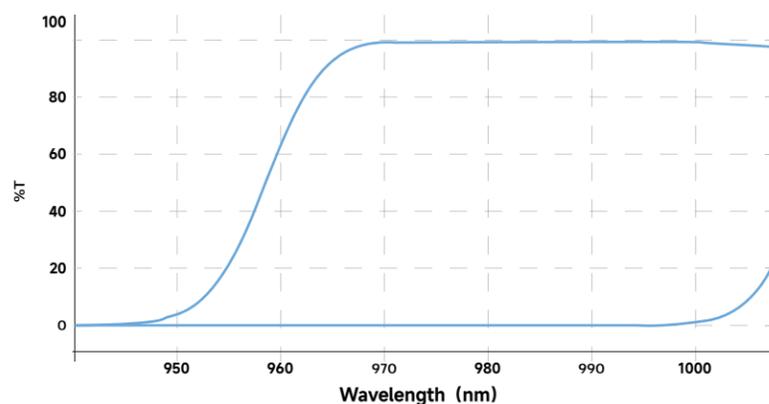
High Power Pump Sources

Specification



Material	BK7+Quartz, C7980+Quartz (or customer-specified material)
Product type	Polarization beam combiner, waveplate, polarizer
Dimensions	5mm-30mm
Surface Quality	40-20
Clear Aperture	85%
Beam Deviation	<3'
Coating	450nm, 915nm, 976nm, 1310nm, 1550nm or other wavelengths
Damage Threshold	15J/cm ²
Operating temperature	≤60°C@600W
Cement Mode	Epoxy-Free

Typical Coating Curve (Example)



Filter

Product Description

Filters are used to select or filter specific wavelength bands. Dayoptics offers long-pass filters, narrow-band filters, band-pass filters, and color glass filters. Customization for size and coating requirements is available based on customer needs.

Advantage

High laser damage threshold, low absorption, superior surface quality, wide operational wavelength range, compatible with automated installation

Application

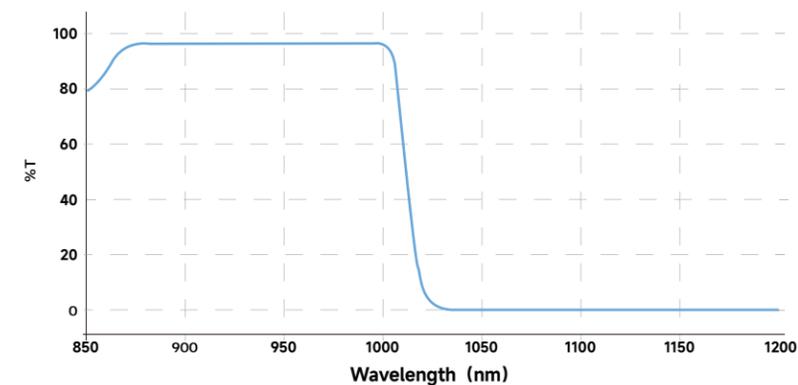
High Power Pump Sources

Specification



Material	C7980 (or customer-specified material)
Product type	Filter
Dimensions	3-30mm
Surface Quality	40-20
Clear Aperture	90%
Coating	Tavg>99.5%@900-990nm, R>99.5%@1020-1180nm
Damage Threshold	15J/cm ²
Operating temperature	≤60°C@600W

Typical Coating Curve (Example)



Spherical Mirror

Product Description

Dayoptics' spherical lenses are available in plano, concave, and convex configurations. Materials include N-BK7, UV-grade fused silica, and other customer-specified materials. Broadband anti-reflection coatings are available for UV, visible, near-infrared, and mid-infrared wavelengths.

Advantage

High laser damage threshold, low absorption, superior surface quality, wide operational wavelength range, compatible with automated installation

Application

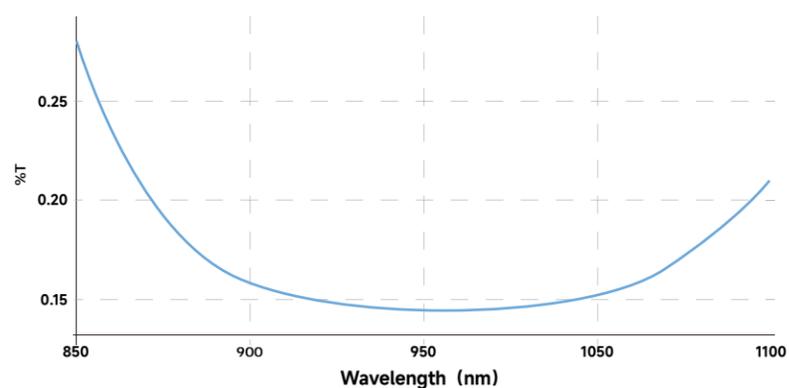
High Power Pump Sources



Specification

Material	BK7, C7980 (or customer-specified materials)
Product type	Plano-convex spherical mirror, plano-concave spherical mirror, biconvex spherical mirror, meniscus spherical mirror
Dimensions	φ4-φ40mm
Curvature	R2-R70
Surface Quality	40-20
Clear Aperture	90%
Coating	400-500nm; 900-1000nm; 1310nm; 1550nm or other wavelengths
Damage Threshold	15J/cm ²

Typical Coating Curve (Example)



End Cap

Product Description

End caps are high-power devices designed for the output end faces of high-power fiber lasers and fiber amplifiers, providing protection for the fiber end face. Dayoptics' end caps are available in materials such as C7979, C7980, and Heraeus-Suprasil 313, with customization options available according to customer requirements.

Advantage

High power endurance, low absorption, low beam distortion, and large beam expansion capacity

Application

Laser welding, laser cutting, laser cleaning



Specification

Material	C7980, C7979, Heraeus-Suprasil 313 (or customer-specified materials)
Product type	End cap
Dimensions	φ1.7-φ30mm
Surface Quality	10-5
Clear Aperture	90%
Coating	1030-1080nm
Damage Threshold	15J/cm ²
Operating Power	3000, 6000, 12000W

Typical Coating Curve (Example)

