



# Optics Solution For Industrial Laser

**YOUR  
OPTICS<sup>+</sup>  
SOLUTION**

# Laser Optics Manufacturing Capabilities



Hitronics has for advanced optics designed for use in systems for:

High-power Laser

Laser Cutting Head

Laser Welding Head

High-power Diode Laser

Fiber Laser

UV Laser

Hitronics delivers finished laser optics faster and with less risk because we own the complete manufacturing process, including optical coating which covers wavelength from UV to Mid-IR, including:

400-490nm, 630-680nm, 720-760nm, 0.98um, 1.3um, 1.48um, 1.55um.

# Laser Optics Manufacturing Capabilities



## Coating technologies

- Reactive Evaporation
- Plasma Ion Assisted Deposition
- Ion Beam Sputtering



## Optical coating capabilities

- UV to Mid-IR applications
- Antireflection
- Beam-splitters
- Filters
- Mirrors
- Polarizers



Hitronics' fabrication capabilities range from conventional machinery to highly deterministic CNC machining for aspherical and toroidal surfaces, including:

- CNC sub-aperture polishing
- Single Point Diamond Turning

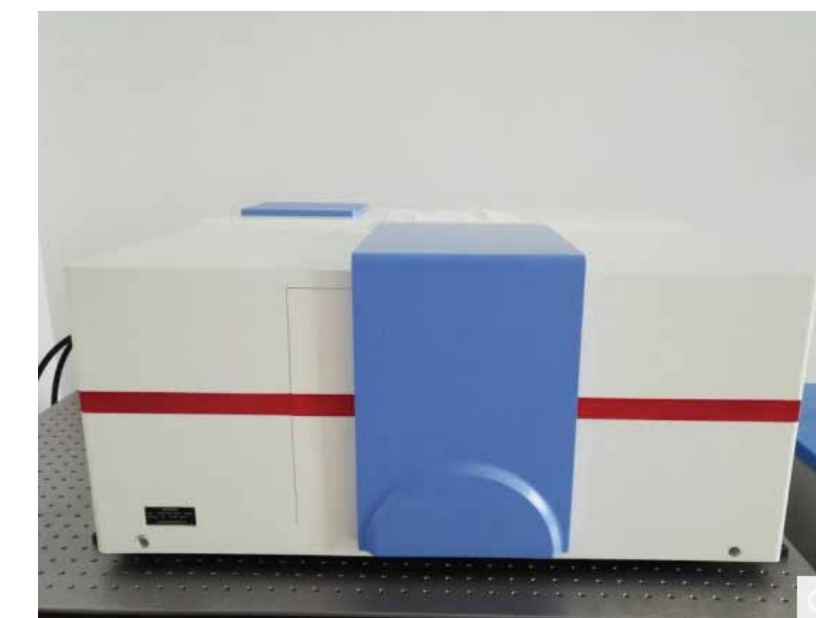


# / Laser Optics Manufacturing Capabilities



To meet metrology needs, Hitronics' metrology lab is required to monitor and verify the fabrication processes and finished optics' quality, including:

- White Light Interferometry
- Ashperic 2D Profile
- Absorption Measurement of Common Path Interference



# Optics For Fiber Laser Pump

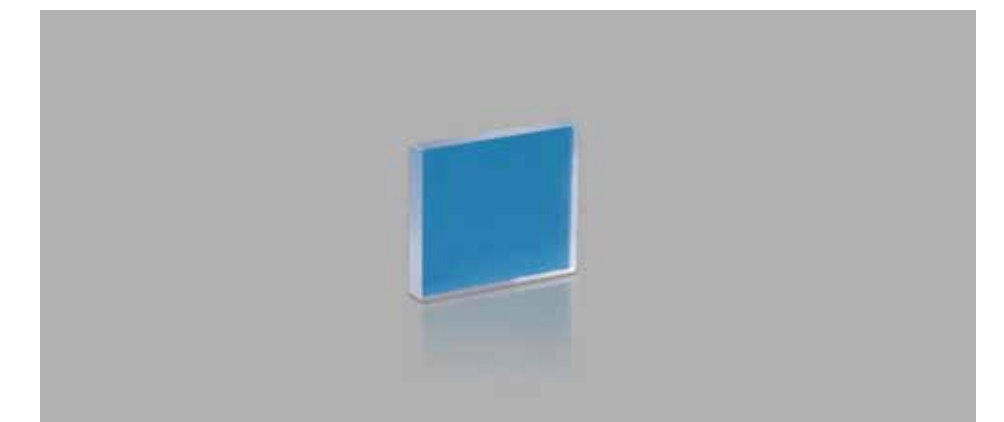
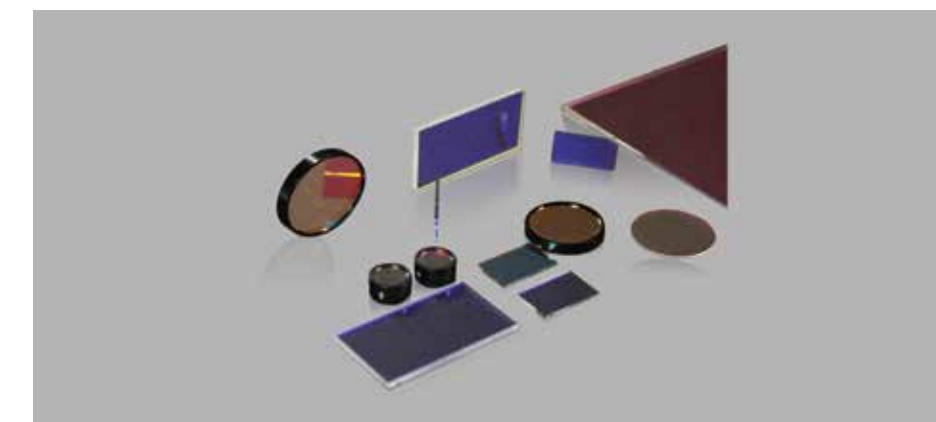


Hitronics has developed superior fabrication and coating capabilities for advanced optics designed for use in systems for Fiber Laser Pump@915nm & 976nm, including:

FAC, SAC, Mirror, PBS, Waveplate, Filter, Focusing lens, Coating Fiber

## Features

- Quality Assurance by ISO9001
- Cost effective fabrication method for large volume demand
- Large & Fast-growing Capacity for various laser optics



# High Power Diode Laser Optics



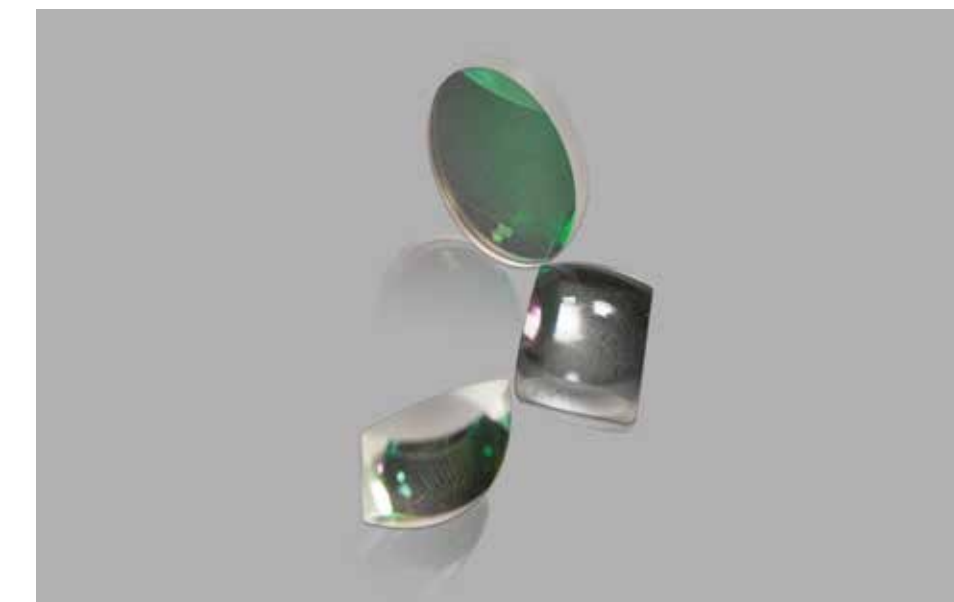
Hitronics manufactures a large range of high power diode laser optics for diode bar and diode stack correction applications, including:

- FAC (fast-axis collimator lens)
- SAC (slow-axis collimator lens)
- Cylinder Lens, Spherical lens, Aspherical Lens



## Features

- Quality Assurance by ISO9001
- Cost effective fabrication method for large volume demand
- Assurance with advanced in-house metrology, including damage threshold test and low absorption test instruments



# / Laser Welding Head Optics

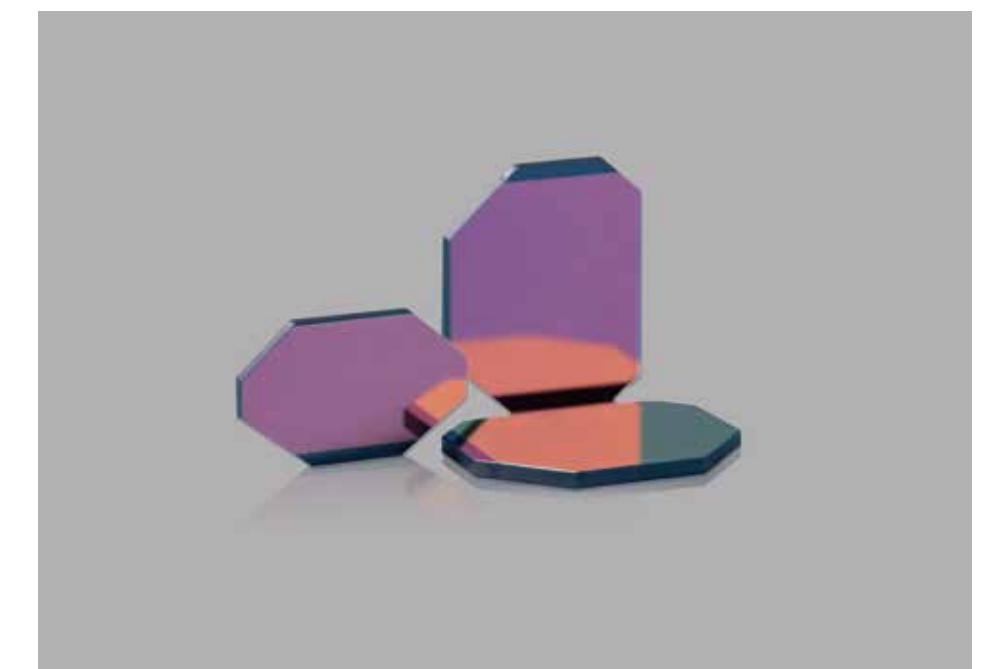
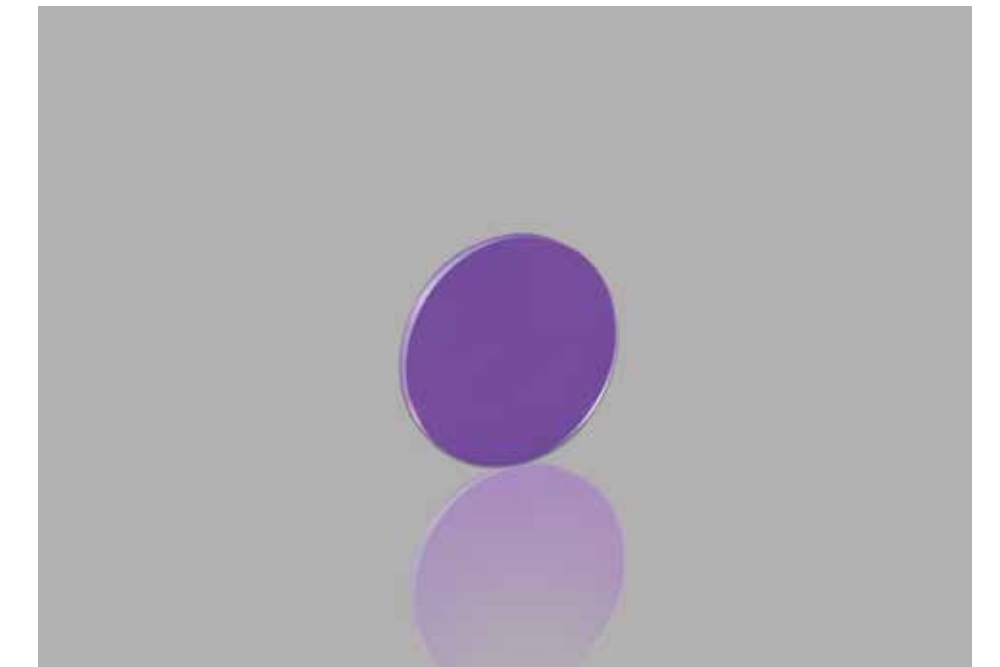


Hitronics helps to achieve laser welding success with the crucial part of the overall welding process-the laser optics, including:

- Focusing lens
- Aspherical lens
- Collimating lens
- High-power Mirror
- Spherical lens
- F-theta Lens

## Features

- Spherical lens (D10-250mm) equipment with 6 CNC machines
- Aspherical lens (D5-500mm) with stable optical parameter control, stable temperature rise and focal length offset control
- Delicate coating capability on various wavelength covers 650nm, 976nm, 1030nm, 1080nm, 1900-2100nm
- Mirror with high damage threshold, high profile requirements and low absorption



## Laser Welding Head Optics



These optics are manufactured for all standard laser types such as CO<sub>2</sub>, Nd:YAG, high-performance diode and fibre laser sources up to 8kW. Hitronics laser welding optics can also be used for **handheld laser welder**, which is widely used in welding work pieces of aluminum, stainless steel, galvanized steel, and brass. It benefits nice flexibility under different laser welder working conditions.





# / Laser Cutting Head Optics

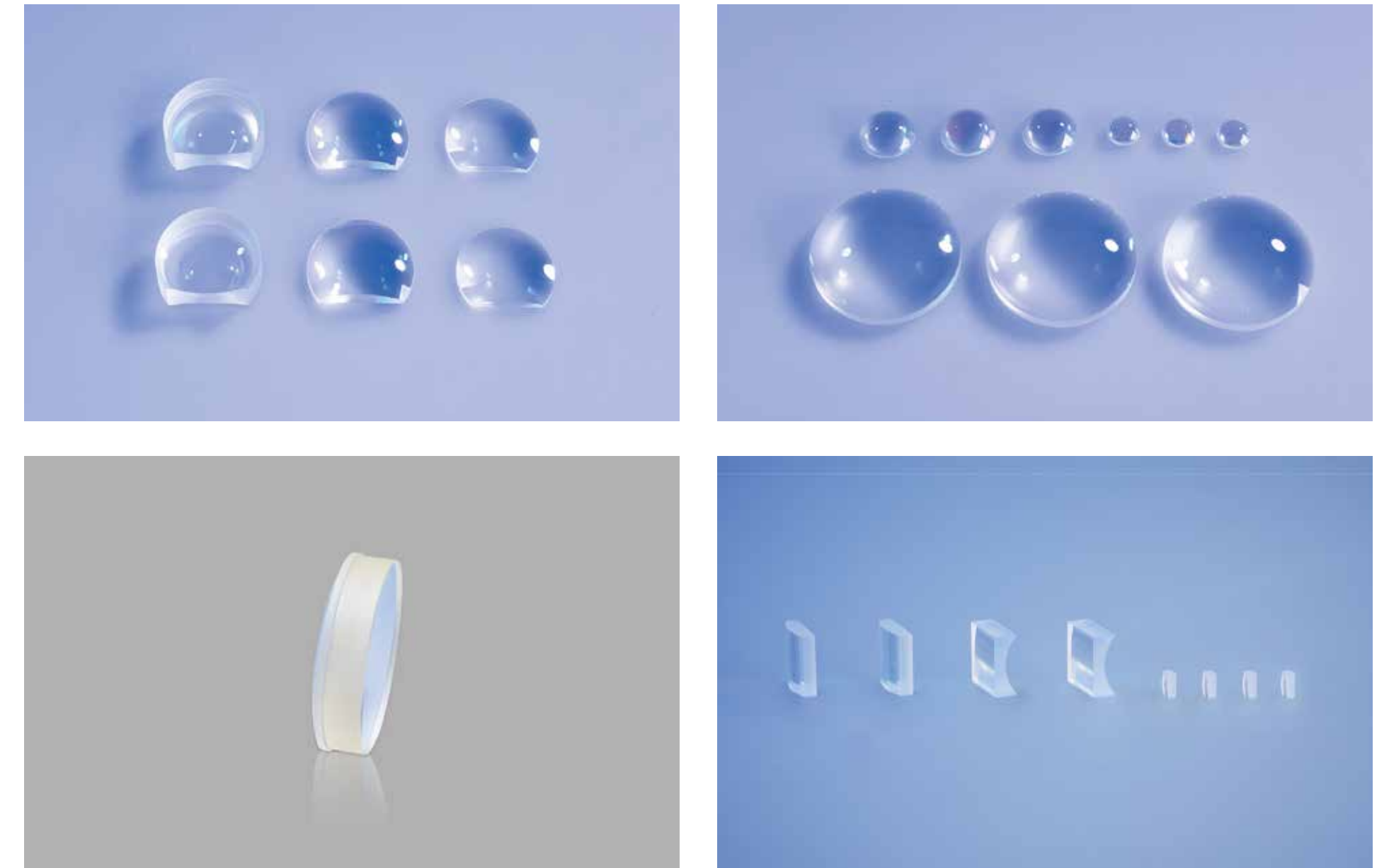


Hitronics developed laser cutter optics to help to improve the quality of cuts made by lasers, including:

- Focusing lens
- Collimating lens
- Spherical lens
- Aspherical lens
- Debris shield

We've developed highly engineered processes to control fabrication, cleaning, coating and packaging, featured in:

- High-quality Laser Surfaces
- No contamination control cleanroom operation and packaging
- Laser Grade Coatings with High Laser Damage Threshold Low Absorption and Long Lifetime



# Optics for UV Lasers

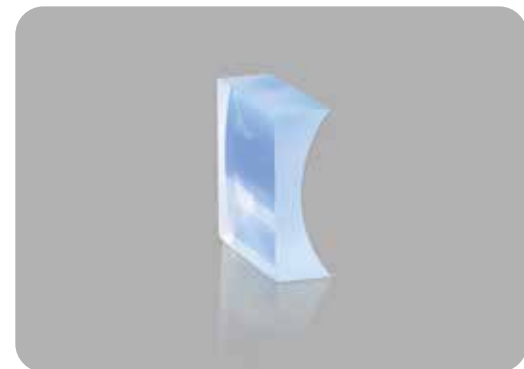


Hitronics provides laser grade optics, including:

- Crystal of Nd:YVO4/YAG 1064 nm
- Crystal of SHG 532 nm and THG 355 nm
- High-fluence coating at 1064nm, 532nm 355nm
- High Reflector
- Focusing Lens

We back up our performance with advanced in-house metrology, including: **damage threshold test** and **low absorption test instruments**.

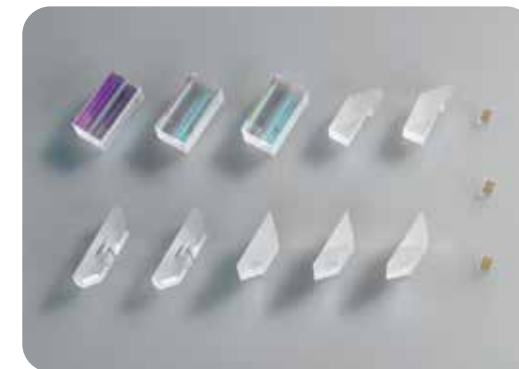




Cylindrical Lens



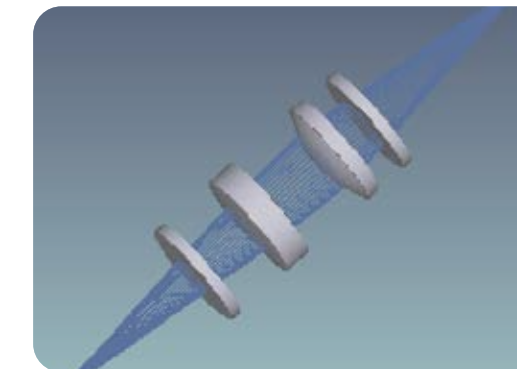
Spherical Lens



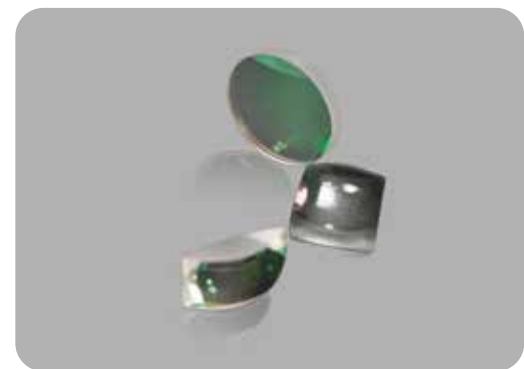
Assembly Optics



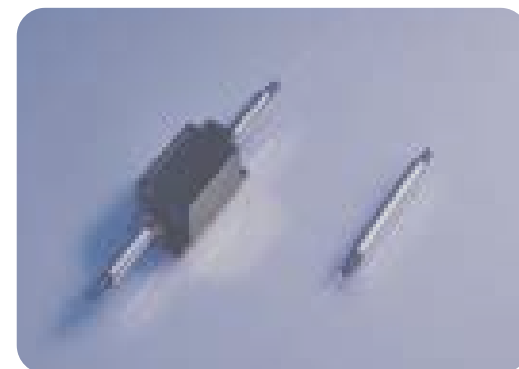
FAC&SAC Lens



Processing Head Optics



Aspherical Lens



In-line Isolator



Laser Crystal



Fiber Collimator



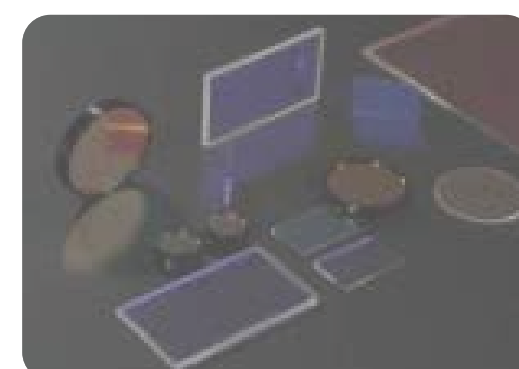
Fiber Laser Isolator



Beam Splitter



Mirror



Window



Prism



F-theta Lens

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