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Cutting head | Welding head | Robot

Cutting Head Selection Brochure

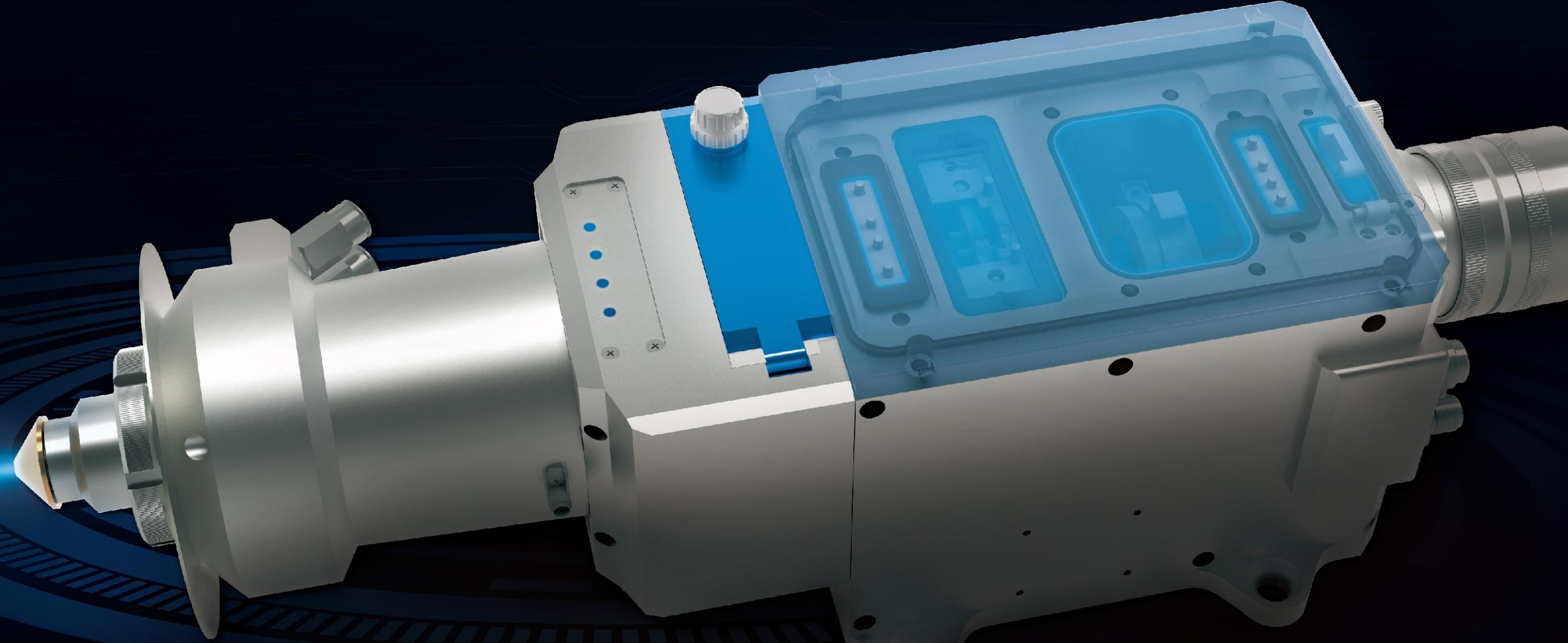
 Solutions for Intelligent Laser Manufacturing Companies

www.wsxlasers.com

Shenzhen Worthing Technology Co., Ltd.



Craftsmanship creates quality · Intelligent manufacturing leads the future





NC330

Bevel Cutting Head 30KW

PRODUCT FEATURES

Wavelength	Collimation Focal Length	Focus Focal Length
1070±30nm	F100	F300
Collimation Protection Lens	Focus Protection Lens	Centering adjustment range
D25.4*4	D34*5	±1.5mm
Nozzle Type	Clear Aperture	Weight
Single layer/Double layer	32mm	7.5kg
Working Power	Nozzle Size	
≦30000W	1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/6.0	



PRODUCT FEATURES

Integrated Structural Design:

Offers higher assembly precision and simplifies maintenance.

Drawer-Style Lenses:

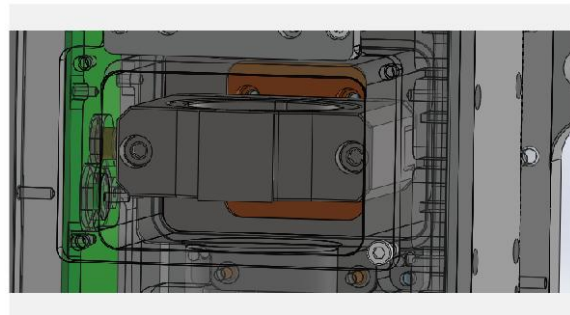
Ensures simple and efficient installation, keeping the lens chamber cleaner.

Built-In Temperature and Stray Light Sensors:

Provides real-time monitoring of internal temperature changes to prevent potential losses.

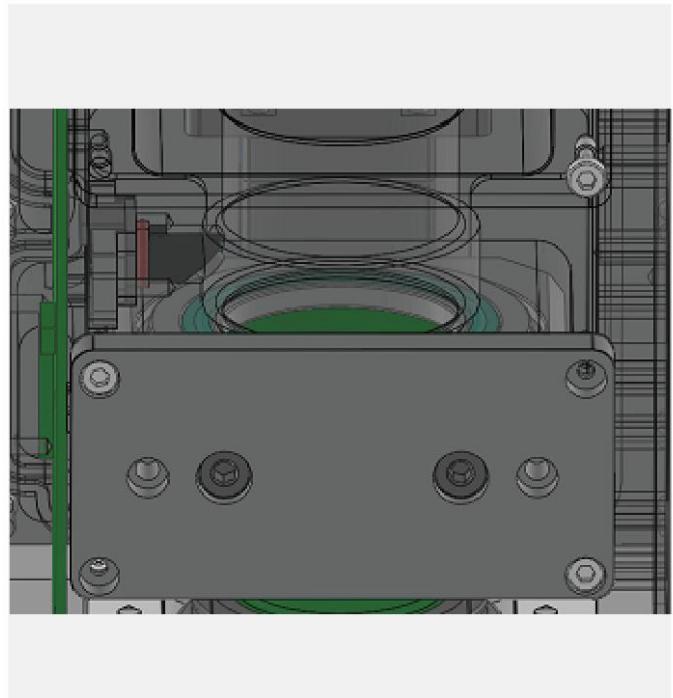
Versatile Compatibility:

Compatible with interfaces such as Q+, QD, LOE3.0, and LOE3.2.



Real-Time

Monitoring of Focusing Lens Temperature and Stray Light



Real-Time

Monitoring of Collimation Lens Temperature and Stray Light

NC310

Plane Cutting Head 30KW

PRODUCT FEATURES

Wavelength	Collimation Focal Length	Focus Focal Length
1070±30nm	F100	F300
Collimation Protection Lens	Focus Protection Lens	Centering adjustment range
D25.4*4	D34*5	±1.5mm
Nozzle Type	Clear Aperture	Weight
Single layer/Double layer	32mm	10.8kg
Working Power	Nozzle Size	
≅ 30000W	1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/6.0	



PRODUCT FEATURES

Collimating Auto-focusing

Fast·rapid auto-focusing by servo motor for more coherent cutting and efficient processing.

Market-leading Optical Lens Technology

Stable and durable·optical lenses and other core components are self-developed and self-manufactured, and the unique design brings long-lasting and stable cutting quality.

Intelligent Perforation

Save time and improve efficiency·real-time monitoring of the perforation process, after perforation feedback to the system for instruction cutting, focusing on the rapid response speed, waiting time is reduced to a minimum.



Stray Light Monitoring

Easier problem identification·real-time monitoring of the stray light value of the cutting head's internal optical path prevents excessive stray light from damaging the cutting head.

Protective Lens Cracking Monitor

Cutting is more stable·when the protective lens is contaminated or damaged, output the stop alarm signal to prevent the lens from burning and cracking.

Anti-collision Protection

Cutting is more stable·the cutting head sensor components have a anti-collision design and can be replaced instantly on-site when a fault occurs, reducing the waiting time for after-sales visits, making it fast and efficient.

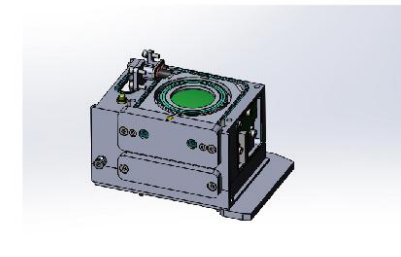
Convenient Service

Durable·optical parts are mounted in a separate drawer and can be replaced in a short time. Mechanical, electrical and optical areas are independently separated, which reduces the possibility of operational errors during maintenance and use and significantly extends the service life of the individual components.



Gas Pressure Monitoring

Excellent cutting quality·monitor the pressure of the cutting process in real time to reduce the impact of abnormal pressure on the quality of the cutting section.



Focus Lens Monitoring

Cutting is more stable·monitor the pollution situation of the focus lens in real time, output the alarm signal when the focus lens is abnormal, and stop the loss in time.



NC230C

High Power Auto-Focus Cutting Head 20KW

PRODUCT FEATURES

Wavelength	Collimation Focal Length	Focus Focal Length
1070±30nm	F100	F300
Collimation Protection Lens	Focus Protection Lens	Centering adjustment range
D25.4*4	D34*5	±1.5mm
Nozzle Type	Clear Aperture	Weight
Single layer/Double layer	32mm	≤7.5kg
Working Power	Nozzle Size	
≤20000W	1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/6.0	



PRODUCT FEATURES

Market-leading Optical Lens Technology

Stable and durable·optical lenses and other core components are self-developed and self-manufactured, and the unique design brings long-lasting and stable cutting quality.

Efficient Cooling

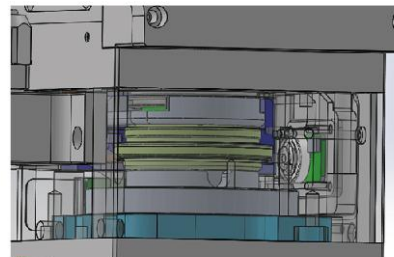
Stable cutting, improve the quality and efficiency·full body air/water-cooled hybrid cooling with 100% cooling coverage enhances cooling efficiency and improves cutting stability and cutting quality.

Focus Lens Monitoring

Cutting is more stable·monitor the pollution situation of the focus lens in real time, output the alarm signal when the focus lens is abnormal, and stop the loss in time.

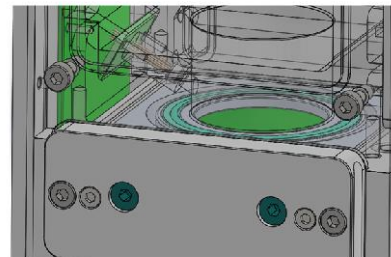
Anti-collision Protection

Making it fast and efficient·the cutting head sensor components have a anti-collision design and can be replaced instantly on-site when a fault occurs, reducing the waiting time for after-sales visits.



Gas Pressure Monitoring

Excellent cutting quality·monitor the pressure of the cutting process in real time to reduce the impact of abnormal pressure on the quality of the cutting section.

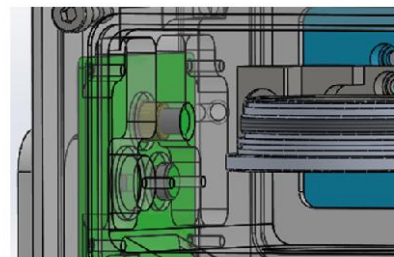


Protective Lens Cracking Monitor

Cutting is more stable·when the protective lens is contaminated or damaged, output the stop alarm signal to prevent the lens from burning and cracking.

Convenient Service

Durable·optical parts are mounted in a separate drawer and can be replaced in a short time. Mechanical, electrical and optical areas are independently separated, which reduces the possibility of operational errors during maintenance and use and significantly extends the service life of the individual components.



Comprehensive Monitoring Of Collimator

Safe, stable, fast, and highly efficient·comprehensive real-time monitoring of lens temperature, cavity temperature, cavity pressure, humidity, effectively preventing property loss due to humidity, contamination, lens aging, etc. One-piece high-precision servo motors focusing quickly and accurately, positioning more accurately, cutting more consistently, processing more efficiently.





NC210

High Power Auto-Focus Cutting Head 20KW

PRODUCT FEATURES

Max Gas Pressure	Collimation Focal Length	Focus Focal Length
2.5MPa	F100	F200
Collimation Protection Lens	Focus Protection Lens	Horizontal Adjustment Range
D25.4*4	D34*5	±1.5mm
Nozzle Type	Clear Aperture	Weight
Single layer/Double layer	32mm	10.3kg
Working Power	Nozzle Size	
≦20000W	1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/6.0	



PRODUCT FEATURES

Market-leading Optical Lens Technology

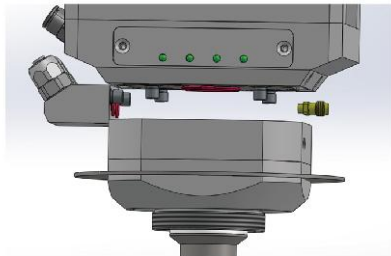
Stable and durable · optical lenses and other core components are self-developed and self-manufactured, and the unique design brings long-lasting and stable cutting quality.

Collimating Auto-focusing

Fast · rapid auto-focusing by servo motor for more coherent cutting and efficient processing.

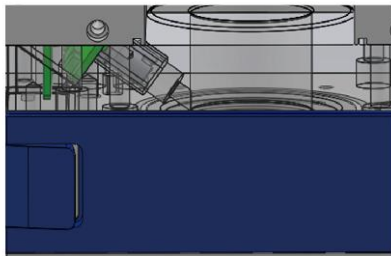
Convenient Service

Durable · optical parts are mounted in a separate drawer and can be replaced in a short time. Mechanical, electrical and optical areas are independently separated, which reduces the possibility of operational errors during maintenance and use and significantly extends the service life of the individual components.



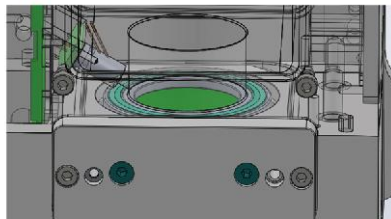
Anti-collision Protection

Cutting is more stable · the cutting head sensor components have a anti-collision design and can be replaced instantly on-site when a fault occurs, reducing the waiting time for after-sales visits, making it fast and efficient.



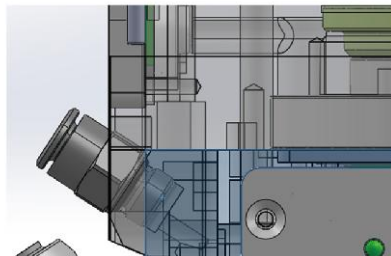
Protective Lens Cracking Monitor

Cutting is more stable · when the protective lens is contaminated or damaged, output the stop alarm signal to prevent the lens from burning and cracking.



Focus Lens Monitoring

Cutting is more stable · monitor the pollution situation of the focus lens in real time, output the alarm signal when the focus lens is abnormal, and stop the loss in time.



Gas Pressure Monitoring

Excellent cutting quality · monitor the pressure of the cutting process in real time to reduce the impact of abnormal pressure on the quality of the cutting section.



NC152

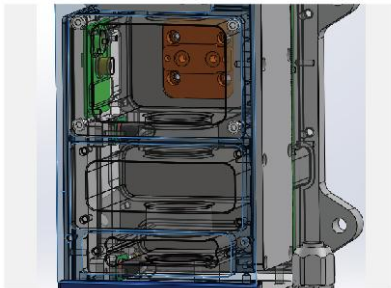
Fiber Auto-Focus Cutting Head 15KW

PRODUCT FEATURES

Max Pressure	Collimation Focal Length	Focusing Focal Length
2.5MPa	F100	F200
Collimation Protective Lens	Focusing Protective Lens	Centering Adjustment Range
D25.4*4	D34*5	±1.5mm
Nozzle Type	Laser Wavelength	Weight
Single layer/Double layer	1070±30nm	5.5kg
Applicable Power	Nozzle Diameter	
≤15KW	1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/6.0	

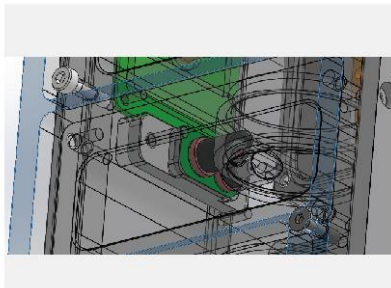


PRODUCT FEATURES



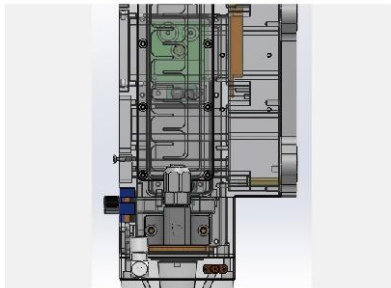
Real-Time Parameter Monitoring:

Monitors parameters such as collimation, focus, protective lens temperature, chamber humidity, and cutting pressure in real-time to ensure stable cutting performance.



Stray Light Monitoring:

Real-time monitoring of stray light values in the cutting head chamber prevents damage and narrows the inspection range for contaminated lenses.



Efficient Cooling:

Water and air cooling design maintains optimal temperature during prolonged high-load operations, preventing cutting defects due to temperature anomalies.

Built-in Drive:

High-performance built-in drive ensures system stability and reliability, significantly reducing maintenance frequency and operational complexity.

Drawer Design:

Collimation, focus barrels, and protective lenses feature a drawer design for easy maintenance.

Integrated Structure Design:

Optimized structural design reduces processing and assembly errors, ensuring stable operation of the cutting head.

Superior Design:

Lightweight with fast acceleration, optimized optics, and efficient airflow design significantly enhance cutting quality and efficiency.



NC65

Fiber Auto-Focus Cutting Head 6KW

PRODUCT FEATURES

Max Pressure	Collimation Focal Length	Focusing Focal Length
2.5MPa	F100	F150/F200
Collimation Protective Lens	Focusing Protective Lens	Centering Adjustment Range
D25.4*4	D34*5/D37*7	±1.5mm
Nozzle Type	Laser Wavelength	Weight
Single layer/Double layer	1070±30nm	5.35kg
Applicable Power	Nozzle Diameter	
≤6KW	0.8/1.0/1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0	



PRODUCT FEATURES

High Sealing:

Internal structure is highly sealed to prevent optical lens contamination, extending lens life and reducing maintenance costs.

Real-Time Parameter Monitoring:

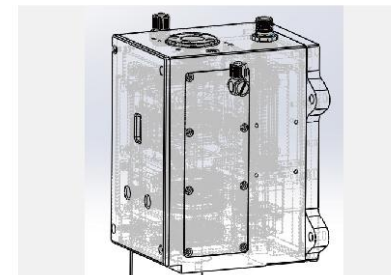
Built-in sensors provide real-time feedback on protective lens, collimation, focus lens temperature, chamber temperature, humidity, and pressure.

Quick Focus Adjustment:

Precision focusing structure with a rapid motor system significantly improves perforation efficiency.

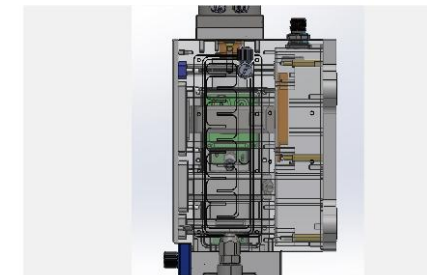
High Compatibility:

Fiber interface compatible with QBH/G5 specifications, easily meeting diverse application needs.



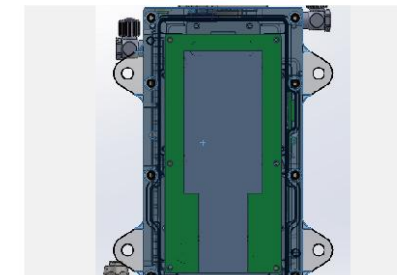
Integrated Structure Design:

Reduces processing and assembly errors, enhancing product durability.



Efficient Cooling:

Water and air cooling design prevents cutting anomalies due to temperature issues, ensuring stable operation and improved production efficiency.



Built-in Drive:

High-performance built-in drive ensures system stability and reduces maintenance frequency and operational complexity.

NC36

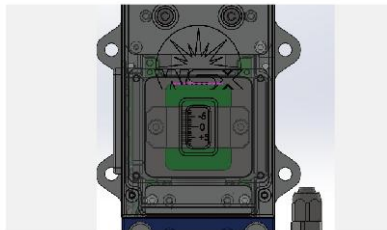
Fiber Auto-Focus Cutting Head 4KW

PRODUCT FEATURES

Max Pressure	Collimation Focal Length	Focusing Focal Length
2.5MPa	F75/F100	F125/F150/F190
Collimation Protective Lens	Focusing Protective Lens	Centering Adjustment Range
D25.4*4	D25.4*4/D30*5	±1.5mm
Nozzle Type	Laser Wavelength	Weight
Single layer/Double layer	1070±30nm	3.5kg
Applicable Power	Nozzle Diameter	
≤4KW	1.0/1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0	

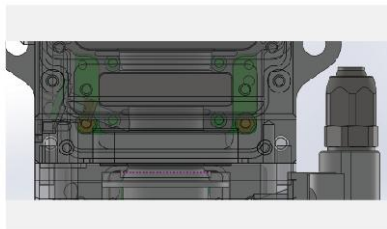


PRODUCT FEATURES



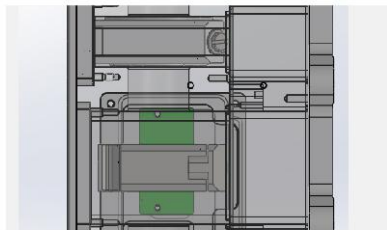
Drawer Maintenance Design:

Collimation, focus barrels, and protective lenses use a drawer design for easy and efficient maintenance.



Real-Time Parameter Monitoring:

Built-in sensors monitor key parameters like protective lens temperature and chamber pressure for stable and efficient cutting.



Integrated Structure Design:

Optimized design reduces processing and assembly errors, ensuring stable operation.

High Compatibility Interface:

Fiber interface compatible with QBH/G5 specifications, meeting diverse application needs.

High Sealing Protection:

Highly sealed internal structure prevents optical lens contamination, extending lens life and reducing maintenance costs.

Built-in Drive Design:

High-performance built-in drive ensures system stability, reducing maintenance frequency and operational complexity.

SW20A

3D Cutting Head 2KW (3D pipe cutting)

PRODUCT FEATURES

Fast Focusing:

Adopting two-point centering adjustment and curve-driven adjustment, easy and precise operation.

High Adaptability:

Fiber optic interface: QBH/QCS etc.

Drawer Type Protection Lens:

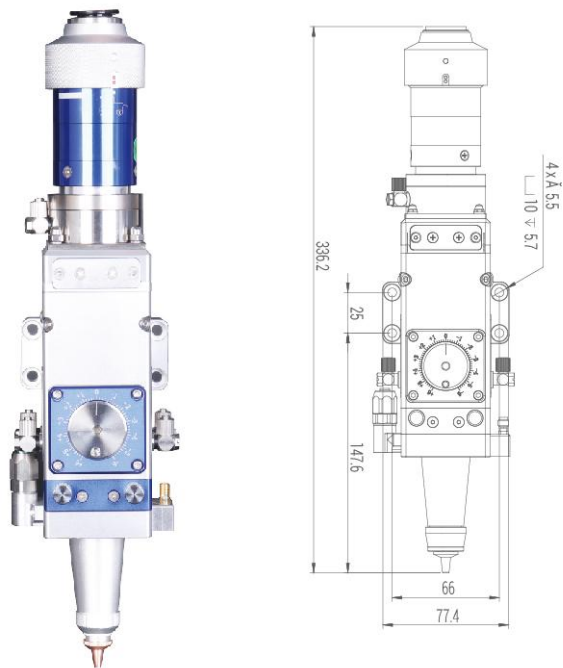
The protection lens is mounted in a drawer type for easy replacement.

High Sealing:

The internal structure is highly sealed, which can prevent the optical lens from being contaminated by the external environment and prolong the service life of the optical lens.

Lightweight Design:

Overall lightweight, compact structure, suitable for use on robots. Optional guide rails are available.



Note: focusing focal length f75/f150 for thin plate cutting.

Max Gas Pressure	Collimation Focal Length	Focus Focal Length	Collimation Protection Lens	Focus Protection Lens	Horizontal Adjustment Range	Vertical Focusing Range
18Bar	F75/F100	F125/F150/F190	D25.4*4	D25.4*4	±1.5mm	±6mm
Nozzle Type	Clear Aperture	Weight	Working Power	Nozzle Size		
Single layer/Double layer	20mm	2.0kg	≤2000W	1.0/1.2/1.5/2.0/3.0/3.5		

SW30

3D Cutting Head for 3KW (3D Tube Cutting)

PRODUCT FEATURES

Quick Focus Adjustment:

Two-point centering and curve-driven adjustment for easy and precise operation.

High Compatibility:

Fiber interface supports QBH and QCS connectors.

Drawer-Style Protective Lens:

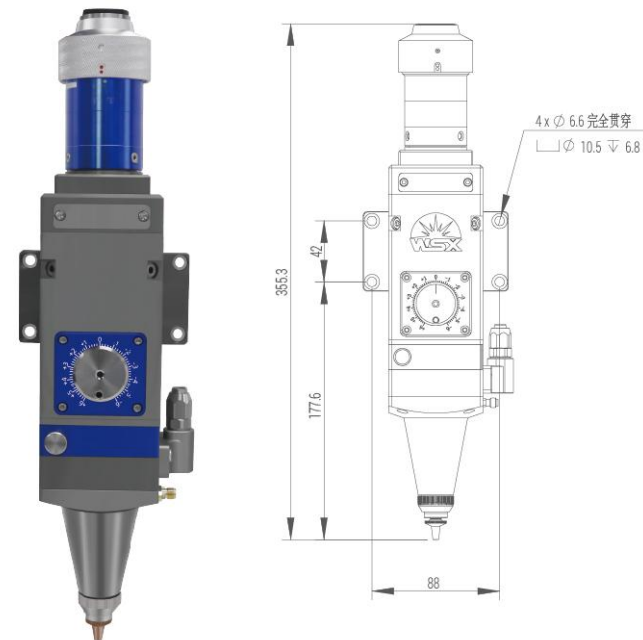
Drawer-style installation for easy replacement.

High Sealing:

Highly sealed internal structure prevents optical lens contamination.

Lightweight Design:

Compact and lightweight, suitable for robotic arms with optional rail.



Note: focusing focal length f75/f150 for thin plate cutting.

Laser Wavelength	Collimation Focal Length	Focusing Focal Length	Collimation Protective Lens	Focusing Protective Lens
1070±30nm	F100	F125/F150/F190	D25.4*4	D25.4*4
Centering Adjustment Range	Nozzle Type	Applicable Power	Weight	Nozzle Diameter
±1.5 m	Single Layer	≤3KW	2.5kg	1.2/1.5/1.8/2.0/2.5/3.0



MN15A

Precision Cutting Head

2kw (Precision Cutting)

PRODUCT FEATURES

Fast Focusing:

Adopting two-point centering adjustment and curve-driven adjustment, easy and precise operation.

High Adaptability:

Fiber optic interface: QBH/QCS etc.

Drawer Type Protection Lens:

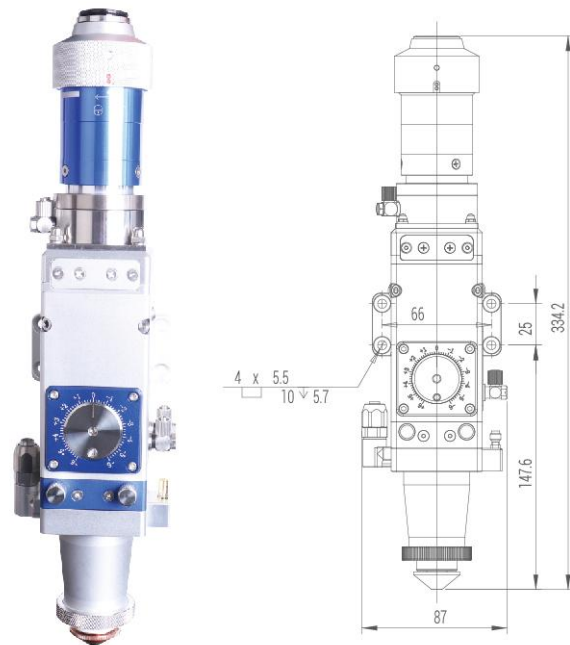
The protection lens is mounted in a drawer type for easy replacement.

High Sealing:

The internal structure is highly sealed, which can prevent the optical lens from being contaminated by the external environment and prolong the service life of the optical lens.

Small Bore Nozzles:

Suitable for small bore nozzles with a minimum bore diameter of 0.8mm.



Note: focusing focal length f75/f100 for thin plate cutting, f125 for thick plate cutting.

Max Gas Pressure	Collimation Focal Length	Focus Focal Length	Collimation Protection Lens	Focus Protection Lens	Horizontal Adjustment Range	Vertical Focusing Range
18Bar	F75/F100	F50/F75/F100/F125	D25.4*4	D25.4*4	±1.5mm	±6mm
Nozzle Type	Clear Aperture	Weight	Working Power	Nozzle Size		
Single layer/Double layer	20mm	2.2kg	≤2000W	0.8/1.0/1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/5.5/6.0		



KC15A

Manual Focusing Cutting Head

2KW (flat cutting)

PRODUCT FEATURES

Fast Focusing:

It adopts two-point centering adjustment and cam adjustment, which is simple and accurate.

High Adaptability:

Fiber optic interface: QBH, QCS etc.

Drawer Type Protection Lens:

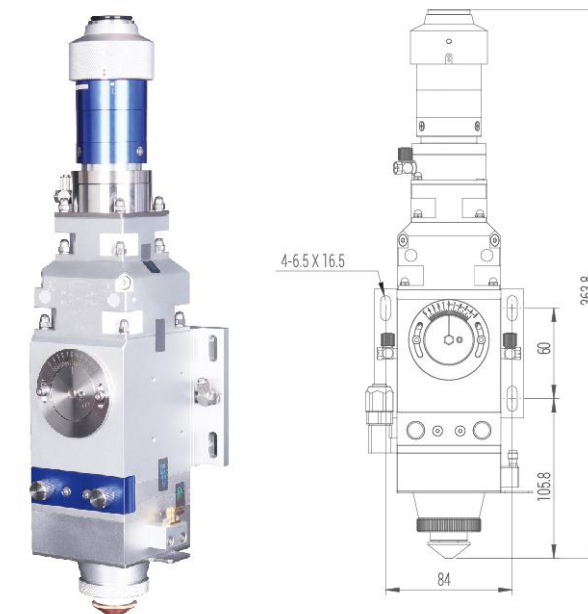
The protection lens is mounted in a drawer type for easy replacement.

High Sealing:

The internal structure is highly sealed, which can prevent the optical lens from being contaminated by the external environment and prolong the service life of the optical lens.

Large Scale Cutting:

There are strong advantages in the application of high-power large-area fiber cutting.



Note: focusing focal length f125/f150 for thin plate cutting, f190 for thick plate cutting.

Max Gas Pressure	Collimation Focal Length	Focus Focal Length	Drawer Protective Lenses	Horizontal Adjustment Range	Vertical Focusing Range	Effective Aperture
18Bar	F75/F100	F100/F125/F150/F190	D30*5	±1.5mm	±5mm	25mm
Nozzle Type	Weight	Working Power	Nozzle Size			
Single layer/Double layer	3.5kg	≤2000W	0.8/1.0/1.2/1.5/1.8/2.0/2.5/3.0/3.5/4.0/4.5/5.0/5.5/6.0			



WSX300-10

AB-Axis

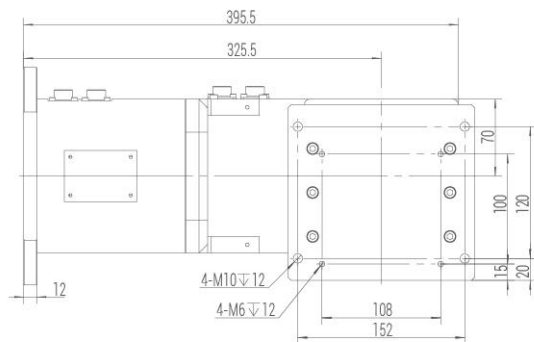
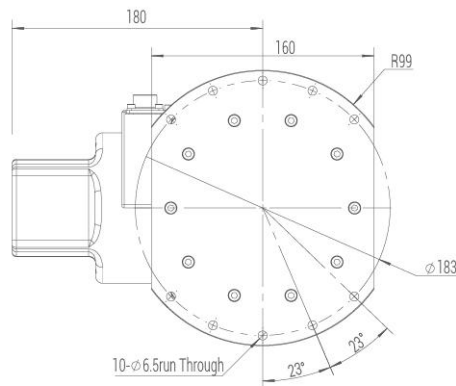
PRODUCT FEATURES

Flexible and expandable, it can be externally mounted with a variety of laser cutting heads.

Adopt ac servo absolute encoder feedback control, safe and reliable.

Lightweight, dustproof and solid structural design.

High dynamic characteristics, high precision and high rigidity.



PRODUCT FEATURES

Maximum Load	Repeat Positioning Accuracy
10kg	±0.02mm
Swing Angle A/B Axis	Maximum Speed A/B Axis
±45°	356°/S
Weight	
12kg	

WSX230-10

ACU-Axis

PRODUCT FEATURES

Flexible and expandable, it can be externally mounted with a variety of laser cutting heads.

Adopt ac servo absolute encoder feedback control, safe and reliable.

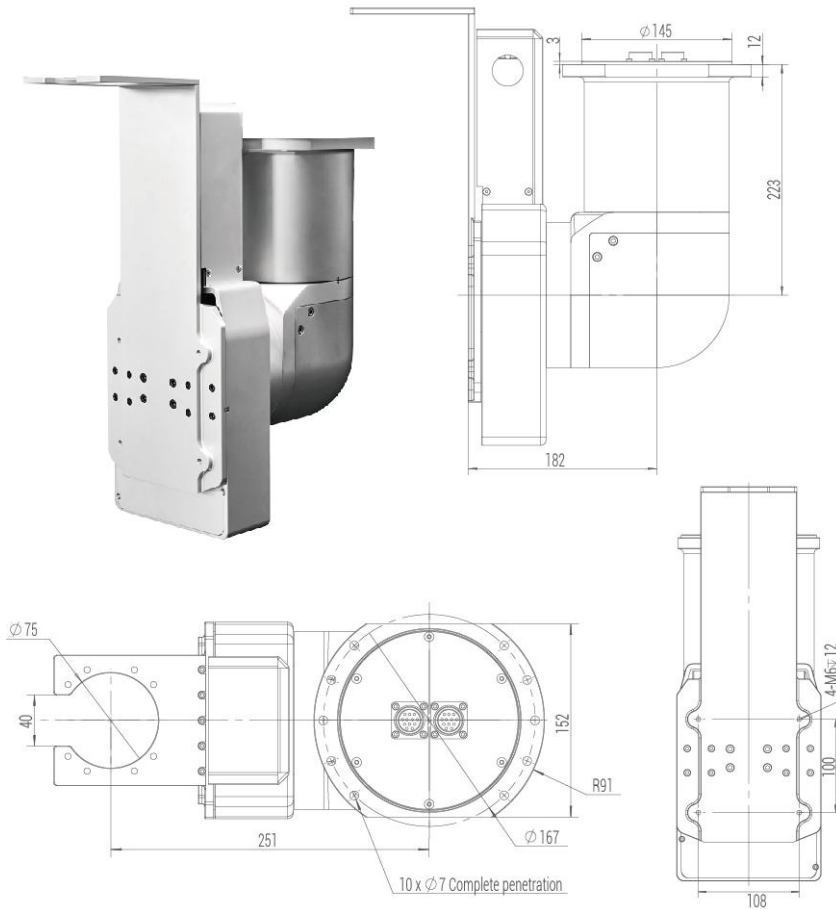
With its own measuring distance sensor, it can automatically measure the profile contour, cut more accurately and prevent collision.

Lightweight, dustproof, and stable structural design.

High dynamic characteristics, high precision, and high rigidity.

PRODUCT FEATURES

Maximum Motion Distance U Axis	Repeat Positioning Accuracy
±25mm	±0.02mm
Maximum Rotation Angle A-axis/C-axis	Maximum Load
±90°	±25mm
Maximum Motion Speed A Axis/C Axis/U Axis	Weight
356°/S 356°/S 30M/min	16.5kg





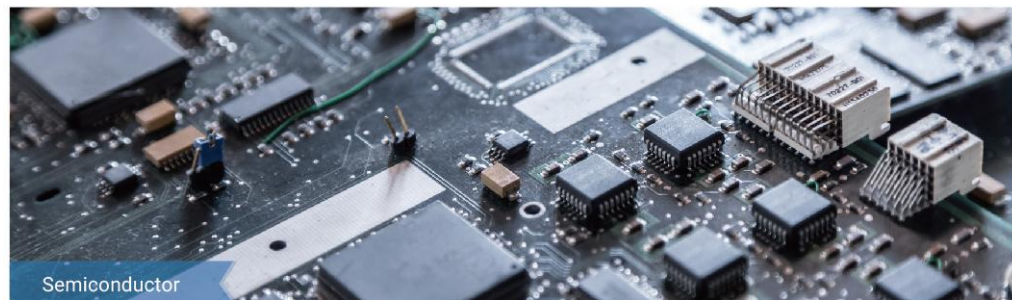
Company Profile

Since 2006, worthing technology has started creating remarkable laser field devices and providing laser head intelligent solutions for our clients. By focusing on fiber cutting head and fiber welding head research and development, production and sales for more than 10 years, we became one of the best national high-tech enterprises. We have more than 100 professional r & d team members and own over 450 authorized patents. With a professional and efficient after-sales service team, we are keeping to serve our customers with high standards and strict requirements. We will always uphold the concept of "innovation, service, efficiency" to create a better future with customers!

R&D team **100⁺**

Authorized Patent **450⁺**





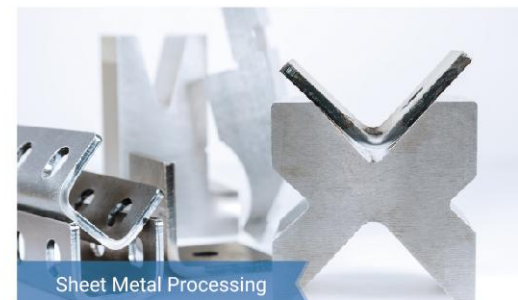
Semiconductor



Lithium Battery Manufacturing



Crafts Processing



Sheet Metal Processing



Construction Machinery

Application Fields

Worthing products are widely used in aerospace, electronics and electrical appliances, automotive, machinery and equipment, tool machining, advertising and decoration and other industry fields of parts processing.



3c Industry



Kitchenware Manufacturing Industry



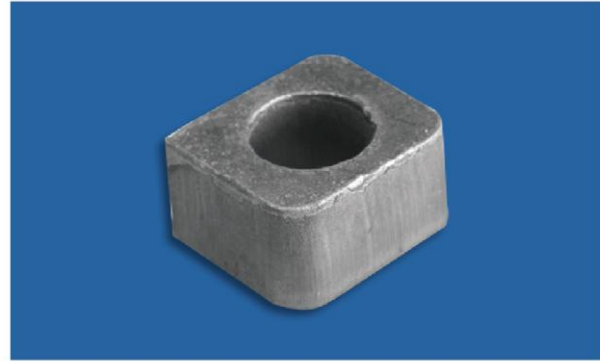
Bathroom Industry



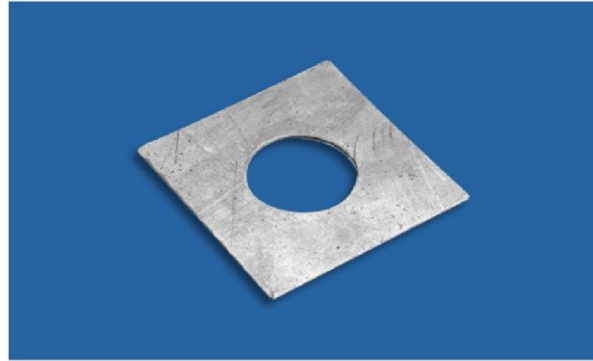
Hardware Equipment



Automotive Manufacturing



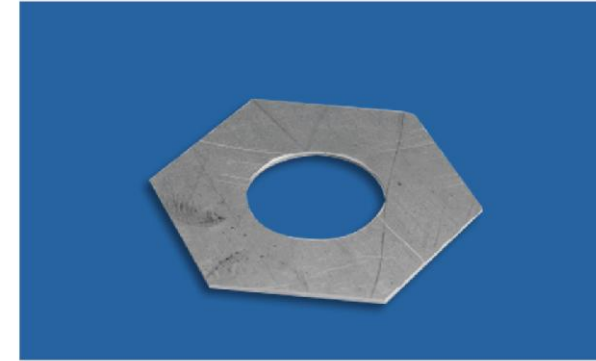
Carbon Steel



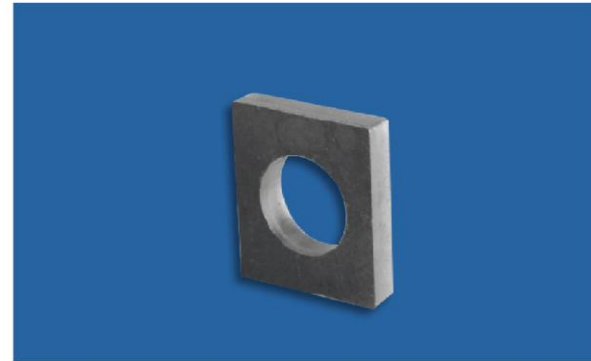
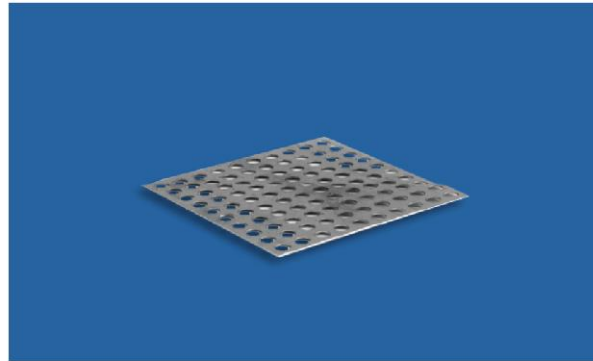
Aluminium



Thick



Thin



Sample Display