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Cutting head | Welding head | robot

# Welding Head Selection Manual

► Solutions for Intelligent Laser Manufacturing Companies

[www.wsxlasers.com](http://www.wsxlasers.com)

Shenzhen Worthing Technology Co., Ltd.





Craftsmanship Creates Quality    Intelligent Manufacturing Leads The Future

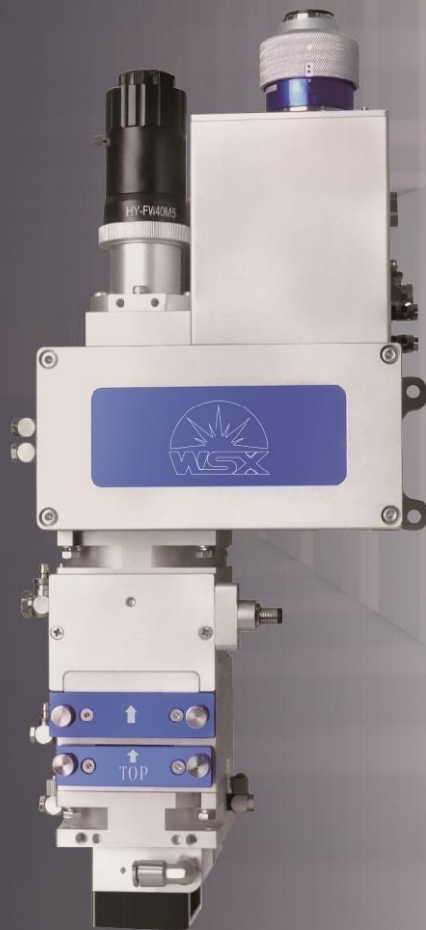


# HB66

## Ring-shaped Spot Wobble Welding Head 6KW

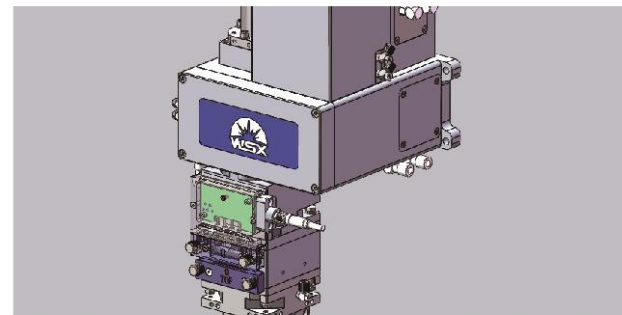
### PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length
6000W	F100	200mm/250mm/300mm
Weight	Clear Aperture	
7.1kg	Φ27mm	
Fitted With QBH Connector		
Applied To Various Ring-shaped Spot Fiber Lasers And Ordinary Fiber Lasers		



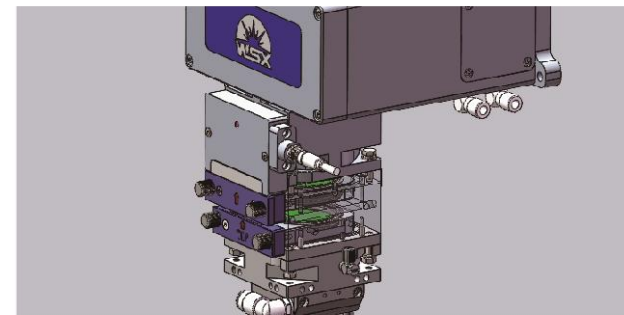
### PRODUCT FEATURES

- It has strong advantages in aluminium alloy welding, high power welding applications, and is a cost-effective welding head.
- Using of motor-driven x, y-axis wobble lens, with a variety of wobble modes, wobble welding allows the workpiece to have irregular welding, larger gaps and other processing parameters. It can significantly improve the quality of welding.
- The internal structure is completely sealed to avoid the dust contamination of the optical parts.
- Equipped with air curtain components to minimize contamination of lenses from welding fumes and spatter residue.
- The optics are mounted in separate assemblies and can be replaced in a short time. Possible operational errors during maintenance and use are reduced and the service life of the individual components is significantly extended.
- Optical lenses and other core components are self-developed and self-manufactured, and the unique design brings long-lasting and stable welding quality.
- The protective lenses have a drawer structure for easy replacement
- Applied to various QBH lasers



#### Focus Protective Lens Monitoring

When the protective lens is contaminated or damaged, output the stop alarm signal to prevent the lens from burning out and cracking.



#### Quick-change Double Protective Lens

Two protective lenses to better protect the focusing lens, quick-change structure.



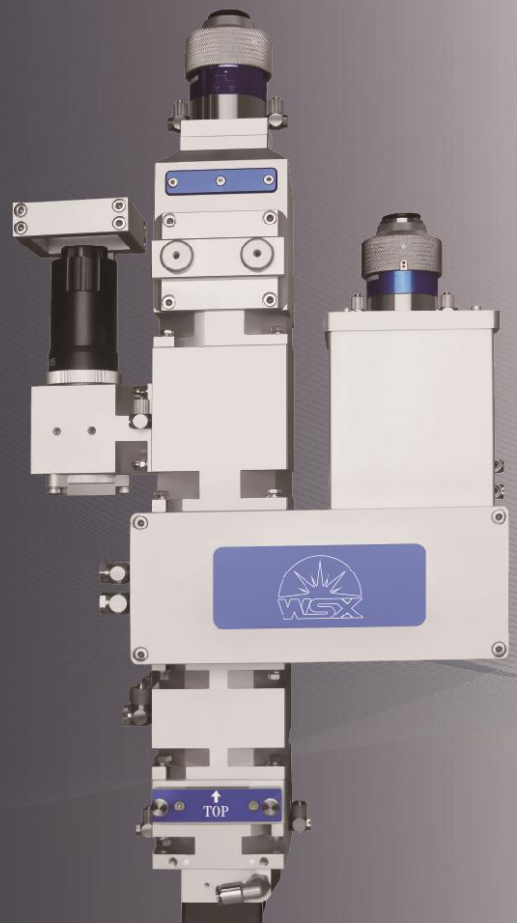
# ND68A

Hybrid Welding Head

8KW (6+2)

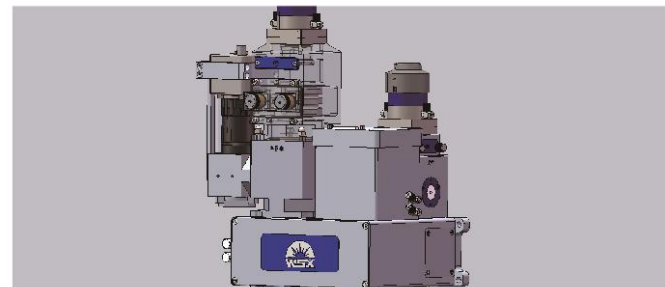
## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length
8000W	F100/F150	200mm/250mm
Weight	Vertical Focusing Range	Clear Aperture
5.5kg	±4mm	Φ36/Φ45mm
Fitted With QBH Connector		
Applied To Various Lasers		



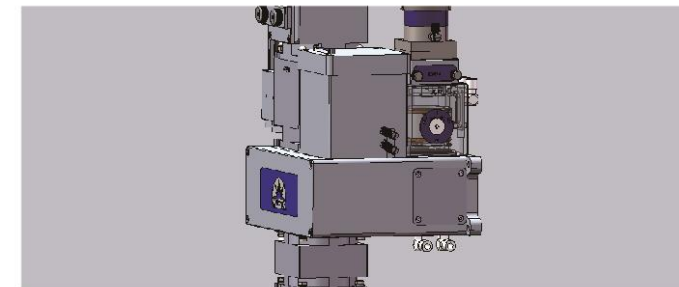
## PRODUCT FEATURES

- It has strong advantages in high reflective material welding, high power welding applications, and is a cost-effective welding head.
- Using of motor-driven x, y-axis wobble lens, with a variety of wobble modes, wobble welding allows the workpiece to have irregular welding, larger gaps and other processing parameters. It can significantly improve the quality of welding.
- The internal structure is completely sealed to avoid the dust contamination of the optical parts.
- Equipped with air curtain components to minimize contamination of lenses from welding fumes and spatter residue.
- The optical lens adopts a drawer structure, which is easy to replace.
- The optics are mounted in separate assemblies and can be replaced in a short time. Possible operational errors during maintenance and use are reduced and the service life of the individual components is significantly extended.
- The protective lenses have a drawer structure for easy replacement
- Available with coaxial nozzle



### Adjustable Semiconductor Parallel Light

The spot can be adjusted according to the specifics need of the customer.



### Adjustable Fiber Optic Collimation Focal Length

The collimation focal length of the optical fiber can be adjusted according to the customer's use.

# HZ62C

Galvo Welding Head 6KW

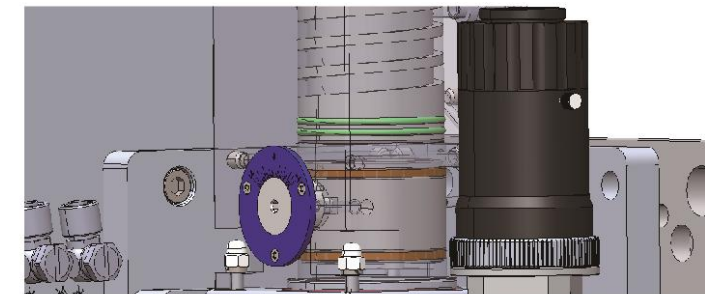
## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length
6000W	F125	420mm
Weight	Scanning Range mm	Aperture mm
12kg	200*200	30
Fitted With QBH Connector		
Applied To Various Ring-shaped Spot Fiber Lasers And Ordinary Fiber Lasers		



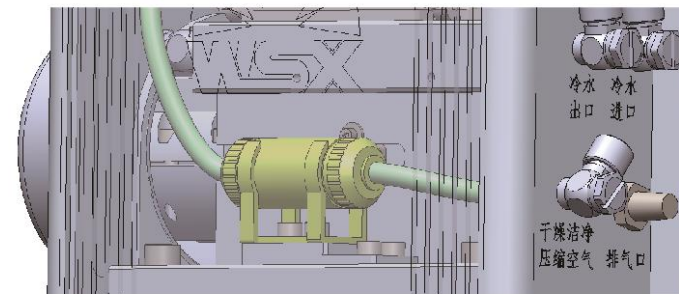
## PRODUCT FEATURES

- Fast and Precise Welding, Offers high welding speed and precision, with excellent production efficiency in multi-point welding.
- Motor-Driven Galvo Mirrors, Utilizes motor-driven X, Y-axis galvo mirrors with F-THETA focusing lens group, supporting multiple oscillation modes to significantly enhance welding quality.
- Sealed Internal Structure, Fully sealed design prevents dust contamination of optical components.
- Air Curtain System, Reduces contamination of lenses from welding fumes and spatter. Fully sealed design prevents dust contamination of optical components.
- Integrated Motor Drive, Stronger anti-interference capability with an integrated motor drive system. Reduces contamination of lenses from welding fumes and spatter. Fully sealed design prevents dust contamination of optical components.
- Enhanced Safety Features, Equipped with multiple alarm functions to prevent lens damage and effectively protect the welding head. Stronger anti-interference capability with an integrated motor drive system.
- Wide Compatibility, Compatible with various lasers equipped with QBH connectors.



### Adjustable Fiber Collimation Focal Length:

Customizable collimation focal length to suit on-site application requirements.



### Internal Compressed Air Channel:

Provides cooling and dust protection for internal galvo mirrors.



# HB15A

Swing Welding Head

3KW

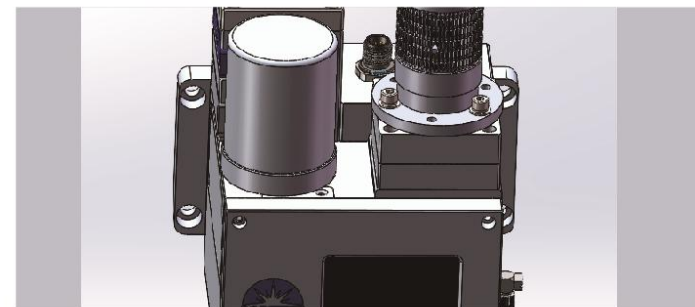
## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length
3000W	F100	200mm
Weight	Effective Aperture	
3kg	Φ24mm	
Compatible with QBH connectors for various lasers		

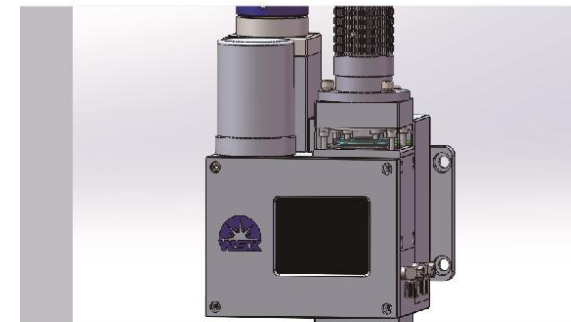


## PRODUCT FEATURES

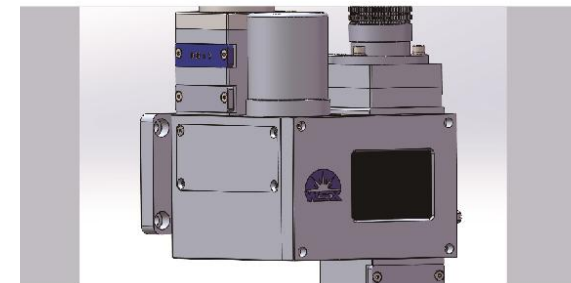
- Versatile Welding Head: Ideal for aluminum alloy and medium-power welding applications, offering economic efficiency.
- Motor-Driven Galvo Mirrors: X, Y-axis motor-driven galvo mirrors with multiple oscillation modes enhance welding quality, accommodating irregular welding and larger gaps.
- Sealed Internal Structure: Prevents dust contamination of optical components. Drawer-style protective lens for easy replacement.
- Compatible with QBH connectors for various lasers
- Built-in Blue Light: No external lighting required, with integrated light source components.



Motor Anomaly Alerts: Displays alerts on screen for anomalies.



Built-in Light Source Component: Eliminates the need for external light source illumination.



Quick Lens Replacement: Collimation and focusing lenses can be quickly swapped via drawer design.



# HD20

Air-Cooled Handheld  
Welding Head

# HD21

Air-Cooled Handheld  
Welding Head

# HD30

Water-Cooled Handheld  
Welding Head

# HD31

Water-Cooled Handheld  
Welding Head

## PRODUCT FEATURES

### Comfortable Operation:

Streamlined lightweight design for flexible operation, ergonomic grip for comfort.

### Intelligent Detection:

Built-in safety detection system monitors temperature, power, motor, and laser output.

### Modular Design:

Integrated gun body with drawer-style focus and protective lenses, and plug-in collimator for easy lens replacement.

### One-Button Efficiency:

One-button wire feed for convenient and efficient use.

### Superior Durability:

Optimized optical structure with upgraded lens materials and coatings for longer life and high welding strength.

### Smart Interface:

Simplified UI for quick execution of continuous welding, spot welding, cleaning, and cutting functions.

## Product Parameters

Name	Model	Applicable Power (KW)	Collimation Focal Length (mm)	Focusing Focal Length (mm)	Swing Amplitude (mm)	Interface Type	Weight (kg)	Remarks
Air-Cooled Handheld Weld	HD20	≤2	60	150	0-6	QCS/QBH	≈0.53	Aluminum Alloy Version
Air-Cooled Handheld Weld	HD21	≤2	60	150	0-6	QBH	≈0.65	Aluminum Alloy Version
Water-Cooled Handheld Weld	HD30	≤3	60	150	0-6	QBH	≈0.52	Plastic Shell Version
Water-Cooled Handheld Weld	HD31	≤3	60	150	0-6	QBH	≈0.65	Aluminum Alloy Version



# ND26

Medium Power Welding Head 2000W

## PRODUCT FEATURES

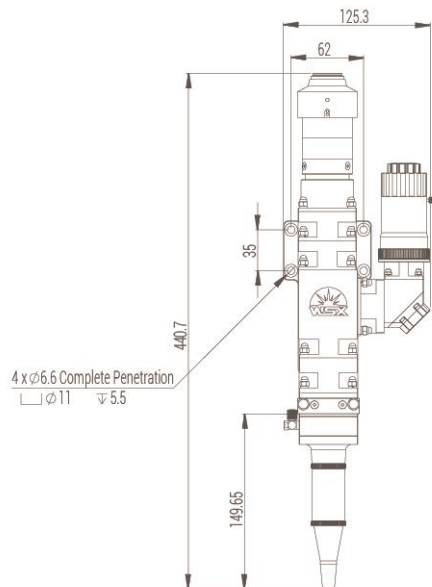
It has strong advantages in aluminium alloy welding, medium power welding applications, and is a cost-effective welding head.

Full-sealed internal structure protects optical part from pollution by dust.

Air curtain parts prevent welding slag from entering head inside.

Full-sealed internal structure protects optical part from pollution by dust.

Can be equipped with ccd component and coaxial nozzle according to customer's need.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
2000W	100mm/150mm	200mm/250mm/300mm	3.2kg	Ø27mm
Fitted With QBH Connector		Applied To Various Lasers		



# ND40

Conventional Welding Head 4000W

## PRODUCT FEATURES

It has strong advantages in medium thick material welding, high power welding applications.

Full-sealed internal structure protects optical part from pollution by dust.

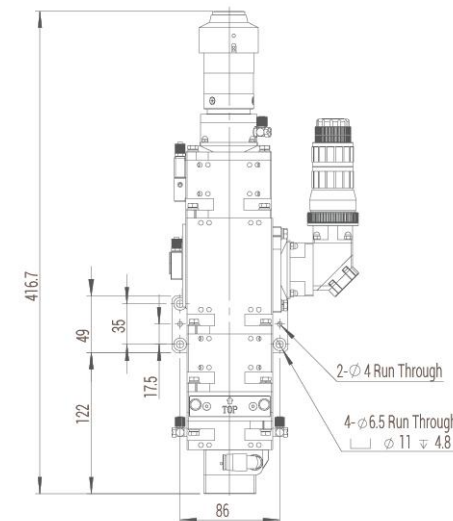
Air curtain parts prevent welding slags from entering head inside.

The protective lenses have a drawer structure for easy replacement.

Applied to various QBH lasers.

Equipped with water-cooling device to improve product quality.

Available with coaxial nozzle



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
4000W	100mm/150mm	200mm/250mm/300mm	4.2kg	Φ48mm
Fitted With QBH Connector		Applied To Various Lasers		





# HP41

Conventional Welding Head 4000W

## PRODUCT FEATURES

It has strong advantages in medium thick material welding, high power welding applications, and is a cost-effective welding head.

The internal structure is completely sealed to avoid the dust contamination of the optical parts.

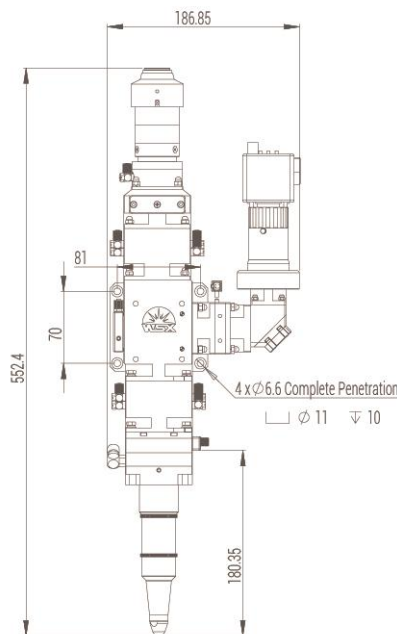
The protective lenses have a drawer structure for easy replacement.

Fitted with coaxial blue light illumination, eliminating the need for an external blue light.

Applied to various QBH lasers.

Equipped with water-cooling device to improve product quality.

Coaxial nozzle prevents welding slag from entering head inside.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
4000W	125mm	250mm	4.4kg	Ø38mm
Fitted With QBH Connector		Applied To Various Lasers		



# ND61B

Ring-shaped Spot 6000W

## PRODUCT FEATURES

The compact size of this weld head allows for higher efficiency and quality in thick plate and large part welding applications.

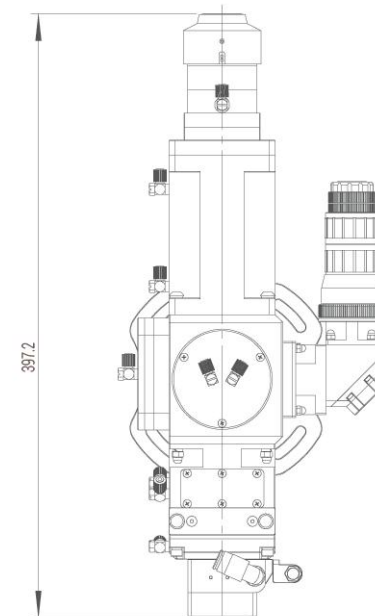
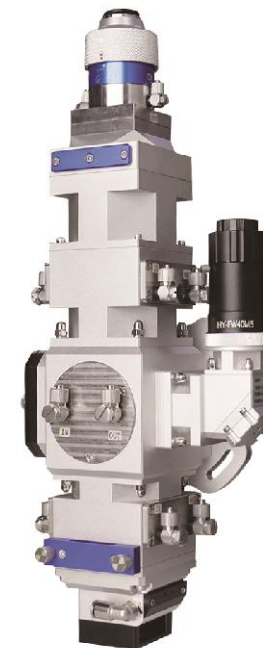
The internal structure is completely sealed to avoid the dust contamination of the optical parts.

Air curtain part prevents welding slag from entering head inside.

The protective lenses have a drawer structure for easy replacement.

Applied to various QBH lasers.

Applicable to coaxial nozzle.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
6000W	100mm/150mm	200mm/250mm/300mm	4.6kg	Φ46mm
Fitted With QBH Connector		Applied To Various Lasers		



# HB12

Wobble Welding Head

2000W

## PRODUCT FEATURES

The internal structure is completely sealed to avoid the dust contamination of the optical parts.

Built-in protective lens gas protection structure, effectively protects the lens.

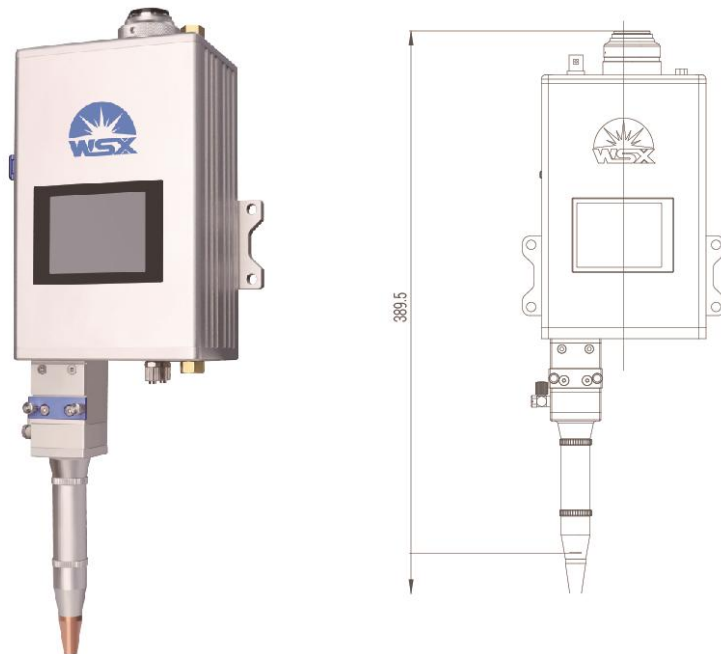
The protective lenses have a drawer structure for easy replacement.

Applied to various QBH lasers.

Automatic wire feeding function.

Rich focus configuration, customizable to meet different customer needs.

Adaptable to robots, lightweight design.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
2000W	80mm	180mm	2.2kg	Ø12mm
Fitted With QBH Connector		Suitable For Various Semiconductor Lasers		



# ND15

Wobble Welding Head

2000W

## PRODUCT FEATURES

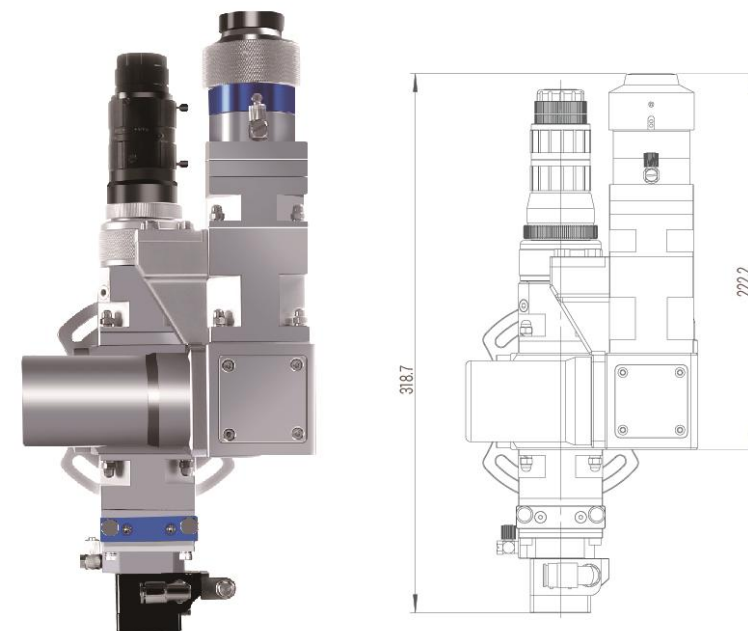
It has strong advantages in aluminium alloy welding, medium power welding applications, and is a cost-effective welding head.

Adopting the motor to drive the x, y-axis galvanometer lens with a variety of wobbling modes. It allows the work piece with irregular welds, and the larger clearance. Processing parameters can significantly improve the quality.

The internal structure is completely sealed to avoid the dust contamination of the optical parts.

The protective lenses have a drawer structure for easy replacement.

Applied to various QBH lasers.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
2000W	75mm/100mm	200mm/250mm	3.6kg	Φ22mm
Fitted With QBH Connector		Applied To Various Lasers		



# ND24C

Wobble Welding Head 4000W

## PRODUCT FEATURES

It has strong advantages in aluminium alloy welding, medium power welding applications, and is a cost-effective welding head.

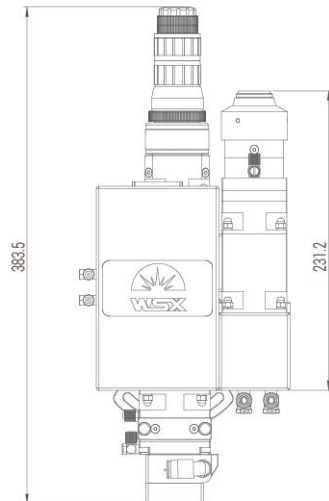
Adopting the motor to drive the x, y-axis galvanometer lens with a variety of wobbling modes. It allows the work piece with irregular welds, and the larger clearance. Processing parameters can significantly improve the quality.

Air curtain part prevents welding slag from entering head inside.

The protective lenses have a drawer structure for easy replacement.

Applied to various QBH lasers.

The motor drive is built-in, and the ability to enforce interference is significantly improved.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
4000W	100mm	200mm/250mm	4.2kg	Φ22mm
Fitted With QBH Connector		Applied To Various Lasers		

# ND60B

Wobble Welding Head 4000W-6000W

## PRODUCT FEATURES

It has strong advantages in high reflective material welding, high power welding applications, and is a cost-effective welding head.

Using of motor-driven x, y-axis wobble lens, with a variety of wobble modes, wobble welding allows the workpiece to have irregular welding, larger gaps and other processing parameters. It can significantly improve the quality of welding.

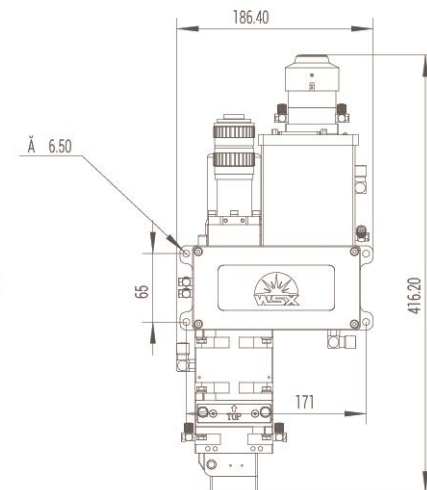
The internal structure is completely sealed to avoid the dust contamination of the optical parts.

Equipped with air curtain components to minimize contamination of lenses from welding fumes and spatter residue.

The protective lenses have a drawer structure for easy replacement.

Applicable to coaxial nozzle.

Motor drive is built-in and anti-interference capability is significantly improved. It can be equipped with coaxial nozzle.



## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Clear Aperture
4000W-6000W	100mm/150mm	200mm/250mm/300mm	6.5kg	Φ35mm
Fitted With QBH Connector		Applied To Various Lasers		







# ND29

Galvanometer Welding Head 3000W

## PRODUCT FEATURES

This welding head is compact and more efficient in thin plate welding applications.

High productivity in multi-point welding with the advantages of high welding speed and high precision.

Collimation, galvo lens, plane f-theta lens are water-cooled structure, to ensure long-term efficient and stable work.

Adopting the motor to drive the x, y-axis galvanometer lens, f-theta focuslens to focus. Providing a variety of wobble modes significantly improving the welding quality.

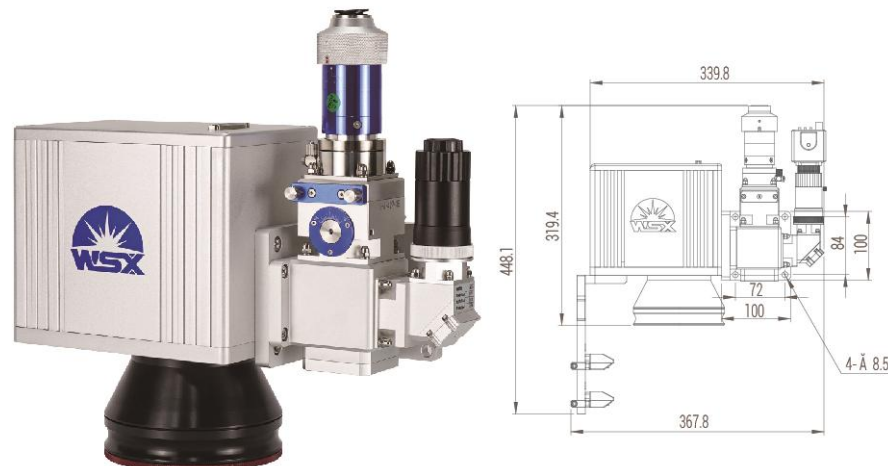
Full-sealed internal structure protects optical part from pollution by dust.

Air curtain parts prevent welding slag from entering head inside.

Built-in driver and improved anti-interference ability.

## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Scanning Range(mm)	Weight	Clear Aperture
3000W	100mm/125mm/150mm	254mm/350mm/400mm	110*110(F254)/200*200(F350)	6.5kg	Φ20mm
Fitted With QBH Connector		Applied To Various Lasers			



# ND31A

Galvanometer Welding Head 4000W

## PRODUCT FEATURES

This welding head is compact and more efficient in thin plate welding applications.

High productivity in multi-point welding with the advantages of high welding speed and high precision.

Collimation, galvo lens, plane f-theta lens are water-cooled structure, to ensure long-term efficient and stable work.

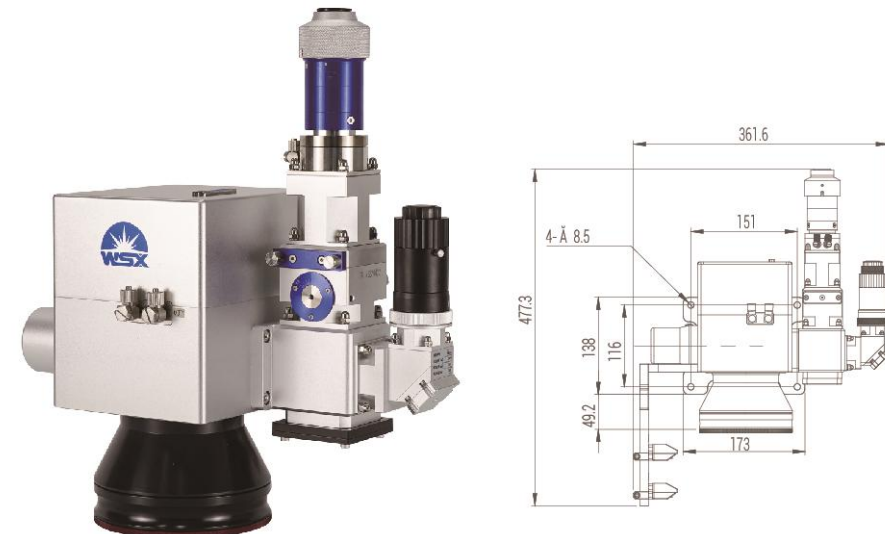
Adopting the motor to drive the x, y-axis galvanometer lens, f-theta focuslens to focus. Providing a variety of wobble modes significantly improving the welding quality.

Full-sealed internal structure protects optical part from pollution by dust.

Air curtain parts prevent welding slag from entering head inside.

## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Scanning Range(mm)	Weight	Clear Aperture
4000W	100mm/150mm	254mm/350mm/400mm	55*55(F161)/110*110(F254)/200*200(F350)/220*220(F400)	8kg	Φ24mm
Fitted With QBH Connector		Applied To Various Lasers			





# ND65C

Galvanometer Welding Head 6000W

## PRODUCT FEATURES

High productivity in multi-point welding with the advantages of high welding speed and high precision.

Adopting the motor to drive the x, y-axis galvanometer lens, f-theta focuslens to focus. Providing a variety of wobble modes significantly improving the welding quality.

Full-sealed internal structure protects optical part from pollution by dust.

Air curtain parts prevent welding slag from entering head inside.

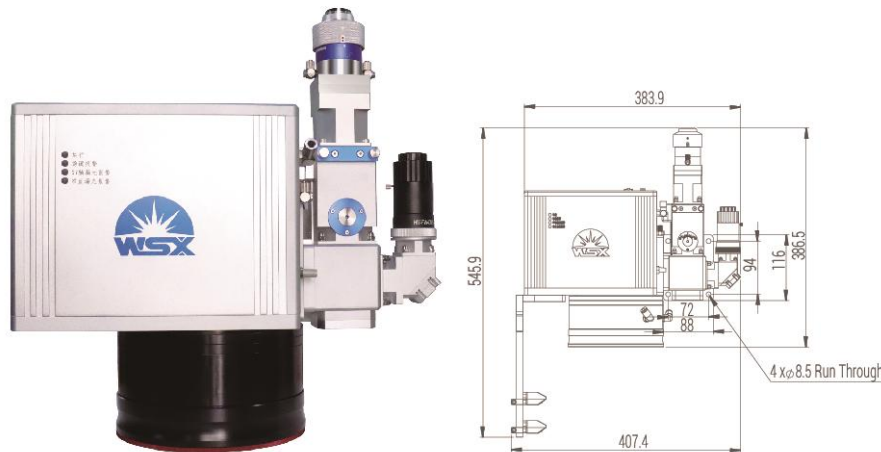
Built-in driver and improved anti-interference ability.

Equipped with various alarm functions for safety, it effectively prevents burnt lenses damage to the welding head.

Applied to various qbh lasers.

## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Scanning Range(mm)	Weight	Clear Aperture
6000W	100mm/125mm/150mm	330mm/350mm/420mm	110*110(F254)/160*160(F330)	13.2kg	Ø25mm
Fitted With QBH Connector		Applied To Various Lasers			



# WD23

Handheld Welding Head 2000W

## PRODUCT FEATURES

Elegant weld seam, no need for post-grinding, and better welding effect with high reflective materials.

High integration, high stability, new control board development, improved output load and anti-interference capability.

New three-in-one system, cutting, welding, cleaning, extensive application.

Independent research and development of safety monitoring and self-inspection system, multiple external safety alarm, improved safety and stability, such as motor abnormal alarm function, laser output abnormal alarm function, abnormal laser output alarm, etc.

Upgraded lenses and weight reduction, all lenses in drawer structure for easy maintenance. Optimized structure is quick to get started and improves handfeel and appearance.

Software upgrades, internal self-tests for real-time status monitoring, integrated library of welding processes for various materials.

## PRODUCT FEATURES

Max Power	Collimation Focal Length	Focus Focal Length	Weight	Swing Range
2000W	80mm	150mm/400mm	0.75kg	0-6mm
Fitted With QBH Connector		Applied To Various Lasers		







## Company Profile

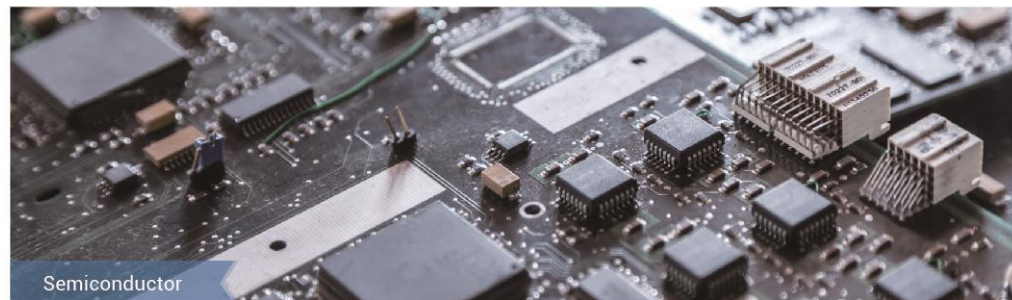
Since 2006, worthing technology has started creating remarkable laser field devices and providing laser head intelligent solutions for our clients. By focusing on fiber cutting head and fiber welding head research and development, production and sales for more than 10 years, we became one of the best 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<sup>+</sup>**

Authorized Patent **450<sup>+</sup>**







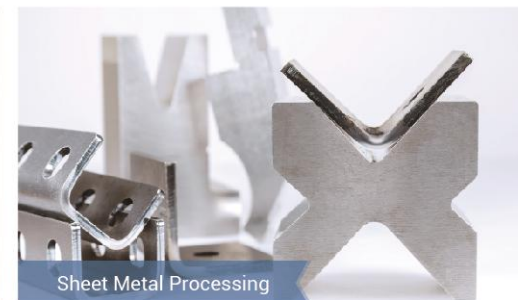
Semiconductor



Lithium Battery Manufacturing



Crafts Processing



Sheet Metal Processing

## Application Fields

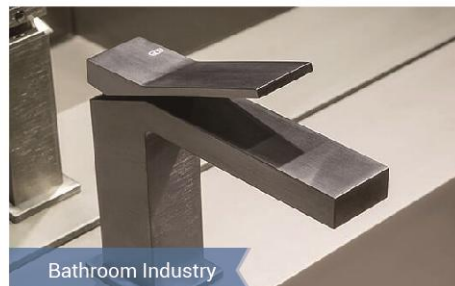
Worthing products are widely used in aerospace, electronics and electrical appliances, automotive, machinery and equipment, tool machining, advertising and decoration and other industry fields of parts processing.



3c Industry



Kitchenware Manufacturing Industry



Bathroom Industry



Hardware Equipment



Automotive Manufacturing



Construction Machinery

