RAYTOOLS

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上海嘉强自动化技术有限公司
Shanghai Empower Technologies Co., Ltd.

地址：上海市松江区东宝路 8 号 / Add：No.8, Dongbao Road, Shanghai, China
咨询热线 / Hotline：400-670-1510
邮箱 / Email：sales@empower.cn
网址 / Web：www.empower.cn

RAYTOOLS

激光加工头——焊接系列

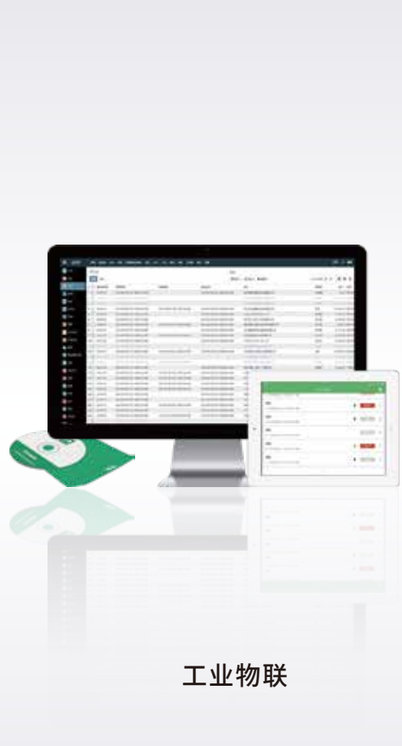
Smart xBeam Delivery——BeamWeld



数控系统



激光传导



工业物联

上海嘉强自动化技术有限公司

赋能激光智造 · 综合解决方案





上海嘉强智能工厂基地

上海嘉强自动化技术有限公司成立于2009年，是激光制造行业的高新技术企业。我们致力于打造“赋能激光智造”——数控系统、激光传导、工业物联，坚持自主创新，共获得专利100余项，可以提供专业的一站式激光制造应用解决方案，包括激光切割、焊接、熔覆、微加工等。我们励志将激光应用融合进各行各业，成为智能激光制造解决方案的引领者。

EMPOWER was founded in 2009, which is a high-tech company in the laser manufacturing industry. We are committed to create "Empower Openlaser Systems" —— xMotion, xLaser, xConnect. We insist on innovation so that we got more than 100 patents and various technology know-how. The professional one-stop laser manufacturing application solutions can be provided by our professional dedicated team, including laser cutting, welding, cladding, micro machining and so on. We strive to integrate laser applications into all sections of industry categories and become the leaders of smart laser manufacturing solutions.

使命
Mission

赋能激光智造
Empower Openlaser Systems

愿景
Vision

让激光有智慧 让智造有灵魂 让应用有个性
Open-Minded Machinery and Automations

价值观
Value

嘉言善行 庄敬自强
Doing Good Deeds

赋能激光智造

Empower Openlaser Systems

xMotion

软件数控



xLaser

激光传导



xConnect

工业物联



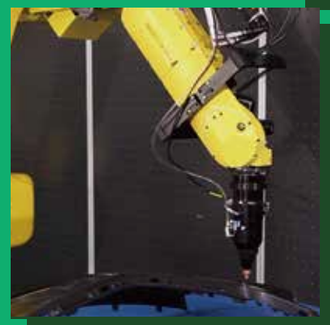
我们的产品可以做什么



平面切割2D Cutting

三维切割3D Cutting





三维非金属切割3D Non-metal Cutting

熔覆Cladding



精密切割Micromachining



焊接Welding



WHAT WE DO

全球网络
Global Network



产品业务完整 Broad Protfolio and Turnkey Solutions

从激光加工头、配件、定制模块，到整体激光综合加工方案，我们提供5000多种产品，可满足各种工业激光应用需求。

From laser processing heads, spare parts, custom modules and turnkey solution kits, we offer more than 5000 SKU off the shelf, to support various industrial laser applications.

客户规模大 Large Scale Customer Base

拥有近2000多家客户，其中国内覆盖全国30个省市，国际拥有美洲、欧洲、亚洲等100多家客户。

More than 2000 clients, covering 30 domestic provinces and international markets like America, Europe, Asia with more than 100 overseas clients.

开放技术平台 Open Platform and Innovations

借助我们的开放式xCNC软件和xBeamDelivery模块平台，我们可以为您的特定应用场景定制激光头产品、嵌入式软件或解决方案套件。

我们获得了超过100项专利和版权，并且还有更多项目正在进行中，我们的团队从未停止创新。

With our open platform of xCNC software and xBeamDelivery modules, we can custom optical mechanical unit and embedded software or the solutions kits for your particular application scenario. Over 100 patents and copyrights accquires with more pending, our team-up innovations actually never stop.

服务响应快 Fast Response Service

拥有武汉、深圳、济南办事处，我们秉持“12小时响应、48小时上门”的服务宗旨，全心全意为客户提供优质的一站式服务。

Owns subsidiary in ShenZhen, JiNan. We adhere to the "12-hour response, 48-hours door-to-door" and wholeheartedly provide customers with quality one-stop service.

服务热线：
Hotline
400-670-1510

服务邮箱：
Service Email
service@empower.cn

ShangHai
上海总部

地址：上海市松江区东宝路8号

邮箱: sales@empower.cn

网址：www.empower.cn

热线：400-670-1510

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传真：(021) 6760-1511

WuHan 武汉

座机: (027) 8130-2226

地址: 武汉市东湖洪山区光谷创业街73号

E3116

ShenZhen 深圳

座机: (0755) 2690-3927

地址: 深圳市宝安区新桥街道新玉路84号

B栋105、205

USA 美国

座机: 1-781-995-7305

地址: 10 Wedge Pond Road, Winchester, MA 01890

USA

JiNan 济南

地址: 山东省济南市高新区春晖路2966号

智造谷产业园18号楼301-306

Switzerland 瑞士

座机：+41-788274963

地址: Emmentalstrasse 96, CH-3414 Oberburg,

Switzerland

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BW101-GS

单振镜手持焊接头

Single Galvo Handle Welding Head

功率等级 Power Rating 2KW

更多信息请扫描二维码
Scan it for more details



*产品图片仅供参考

单振镜手持焊接头

Single Galvo Handle Welding Head

重量轻体积小，操作简单，符合人体工程学设计

Light weight, small size, simple operation, ergonomic design.

安全防护

Security

多重安全防护，离开工件无法出光，安全性高

Multiple safety protection, no light can be emitted from the workpiece, high safety.

优化设计

Optimized Design

双保护窗设计，防尘防渣设计，产品稳定可靠

Double protection window design, dust-proof and anti-slag design, the product is stable and reliable.

工艺优点

Process Advantages

连续焊接，鱼鳞点焊，
适应各种焊接方式

Continuous welding, fish scale spot welding, suitable for various welding methods.

多合一功能

All-in-one Function

配有多种用途喷嘴选型，满足焊接、切割、
焊缝清洗、远程清洗等多种功能

Equipped with a variety of nozzle selection, to meet the welding, cutting, welding seam cleaning, remote cleaning and other functions.

技术参数 Specifications

功率等级 Power Rating	2000W
通光孔径 Clear Aperture	14mm
摆动幅度 Swing Scope	0-5mm
适用波长 Applicable Wavelength	1070nm
重量 Weight	~0.9kg

系统配件 Accessories

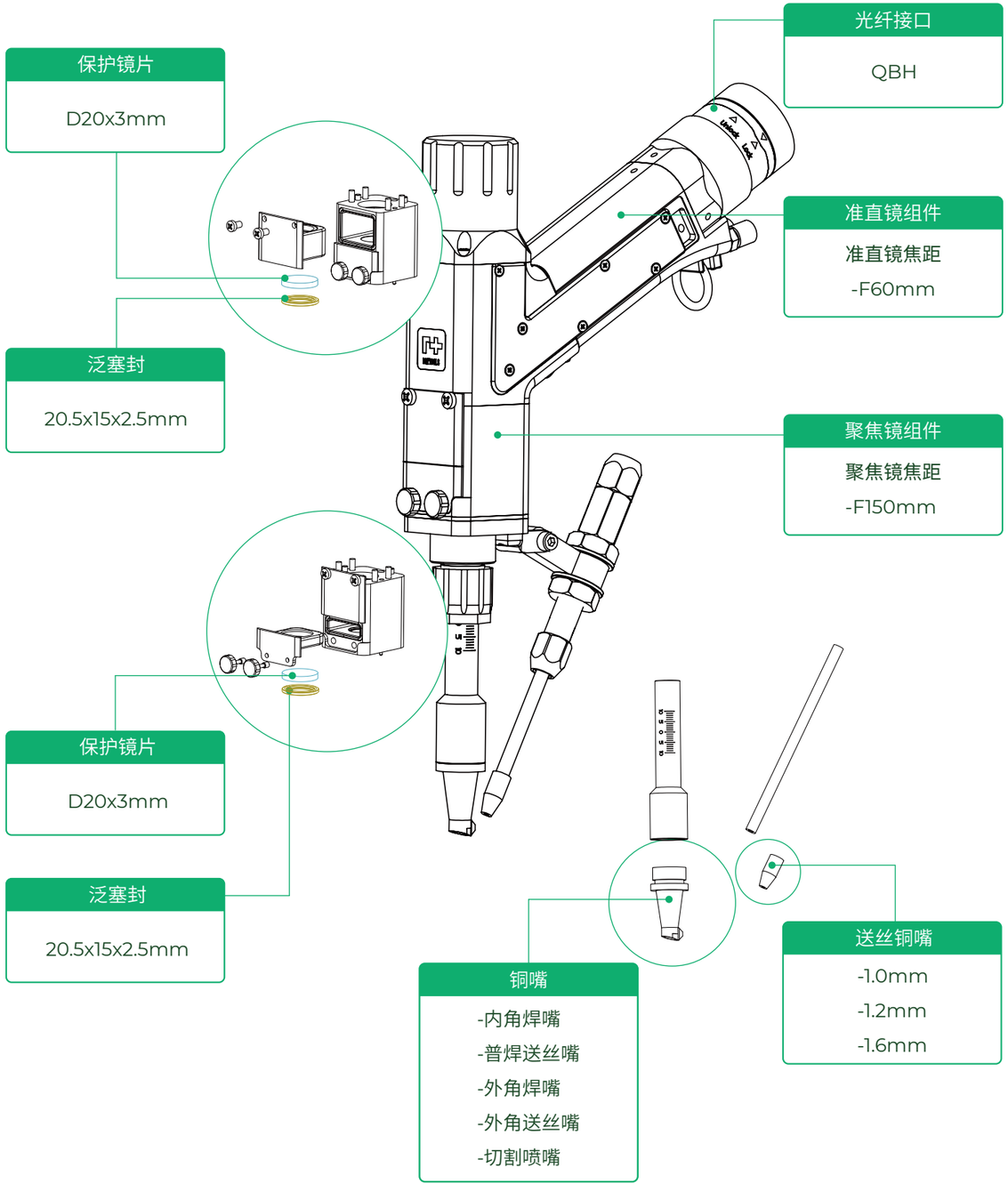
控制盒
Control Box



选配 Optional

送丝机
Wire Feeding Machine





BW101-GD

双振镜手持焊接头

Dual Galvo Handle Welding Head

功率等级 Power Rating 2KW

更多信息请扫描二维码
Scan it for more details

双振镜手持焊接头

Dual Galvo Handle Welding Head

重量轻体积小，操作简单，符合人体工程学设计

Light weight, small size, simple operation, ergonomic design.



*产品图片仅供参考

安全防护

Security

多重安全防护，离开工件无法出光，
安全性高

Multiple safety protection, no light can be emitted from the workpiece, high safety.

优化设计

Optimized Design

双保护窗设计，防尘防渣设计，产品
稳定可靠

Double protection window design, dust-proof and anti-slag design, the product is stable and reliable.

工艺优点

Process Advantages

8种摆动图形，满足客户不同工艺需求

8 kinds of swing graphics to meet the different process requirements of customers.

多合一功能

All-in-one Function

配有多种用途喷嘴选型，满足焊接、切
割、焊缝清洗、远程清洗等多种功能

Equipped with a variety of nozzle selection, to meet the welding, cutting, welding seam cleaning, remote cleaning and other functions.

技术参数 Specifications

功率等级 Power Rating	2000W
通光孔径 Clear Aperture	10mm
X轴摆动幅度 X-axis Swing Amplitude	0-5mm
Y轴摆动幅度 X-axis Swing Amplitude	0-5mm
适用波长 Applicable Wavelength	1070nm
重量 Weight	~1.0kg

系统配件 Accessories

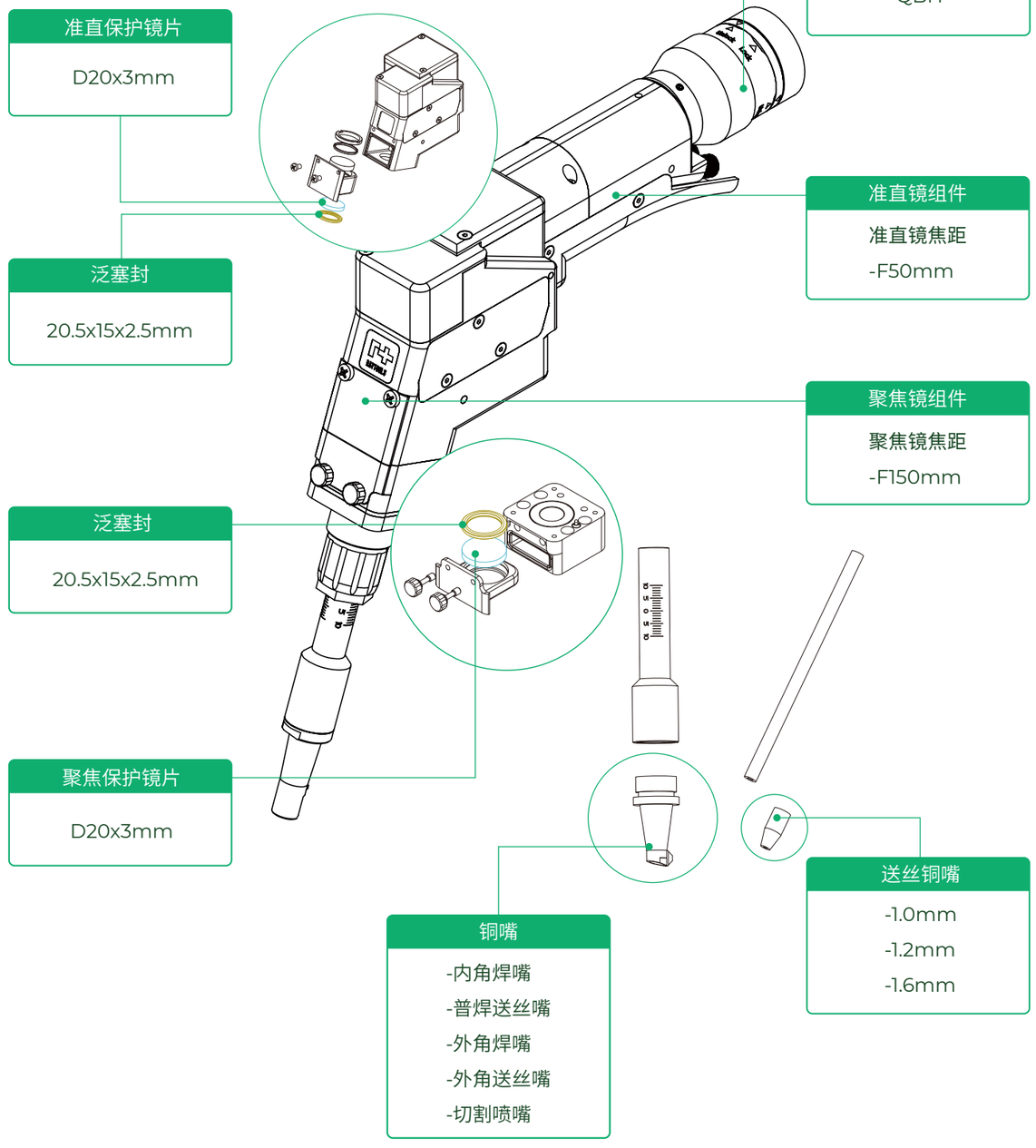
控制盒
Control Box



选配 Optional

送丝机
Wire Feeding Machine





BW101-HS

中空电机手持焊接头

Hollow Motor Handle Welding Head

功率等级 Power Rating 2KW

更多信息请扫描二维码

Scan it for more details

中空电机手持焊接头

Hollow Motor Handle Welding Head

重量轻体积小，操作简单，符合人体工程学设计

Light weight, small size, simple operation, ergonomic design.



工艺优点

Process Advantages

圆形光斑摆动扫描，加大对板材间隙的适应性

Circular light spot swing scanning, increase the adaptability to the plate gap.

安全防护

Security

多重安全防护，离开工件无法出光，安全性高

Multiple safety protection, no light can be emitted from the workpiece, high safety.

多种焊接喷嘴选择

Multiple Welding Nozzle Options

配多种焊接喷嘴，适应不同的工艺需求

Equipped with a variety of welding nozzles to adapt to different process requirements.

*产品图片仅供参考

技术参数 Specifications

功率等级 Power Rating	2000W
通光孔径 Clear Aperture	15mm
扫描光斑直径 Scanning Spot Diameter	1.7mm，2.0mm
适用波长 Applicable Wavelength	1070nm
重量 Weight	~0.8kg

系统配件 Accessories

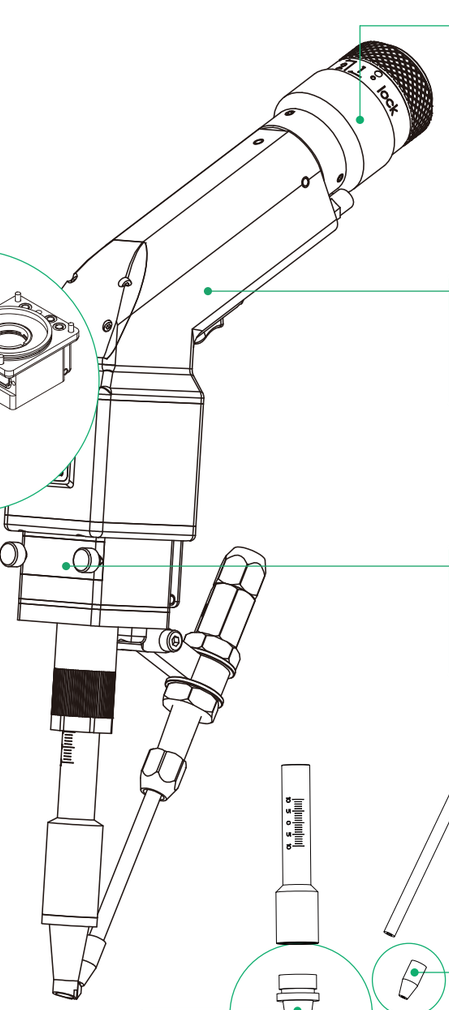
控制盒 Control Box



选配 Optional

送丝机 Wire Feeding Machine





光纤接口

QBH

聚焦保护镜片

D16x3mm

泛塞封

19x13x3.5mm

准直镜组件

准直镜焦距

-F60mm

聚焦镜组件

聚焦镜焦距

-F150mm

送丝铜嘴

-1.5mm

-1.8mm

铜嘴

-内角焊嘴

-普焊送丝嘴

-外角焊嘴

-外角送丝嘴

BW210

透射式激光焊接头

Transmissive Laser Welding Head

功率等级 Power Rating 3KW

更多信息请扫描二维码

Scan it for more details

高性价比

High Performance

可适配低功率半导体及光纤激光焊接市场需求，适用于黑色金属及有色金属

Adaptable to low-power diode and fiber laser welding market demand.Suitable for ferrous and non-ferrous metals.

高效冷却

Efficient Cooling

准直镜和聚焦镜座均设置水冷，能够长时间稳定工作，延长使用寿命

Both collimating and focusing lens are water-cooled and can work stably for a long time and prolong service life.



*产品图片仅供参考

焊接效果优异

Excellent Welding Effect

优化的光学设计，实现高速、高质量的低功率激光焊接

With the optimized optical design,easy to realize low power laser welding, fast welding speed and high quality.

扩展模块丰富

Various Extension Module

可扩展焊缝跟踪或寻位功能等模块，易于实现自动化焊接

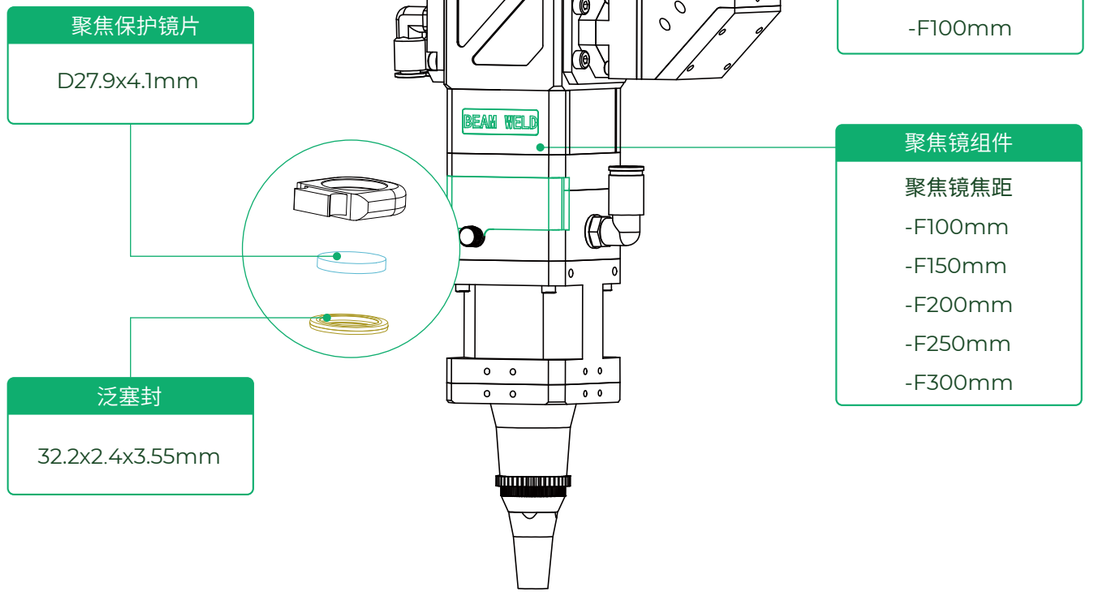
The welding seam tracking or locating function module can be expanded, easier to achieve automatic welding.

优质的气流设计

High-quality Airflow

采用平滑高效的流体结构设计，能获得优质的熔池保护效果

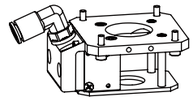
With efficient fluid structure design, which can obtain excellent protection effect of the molten pool.



技术参数 Specifications

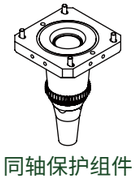
功率等级 Power Rating	3000W	通光孔径 Clear Aperture	28mm
激光波长 Laser Wavelength	光纤1064nm，半导体 915nm，蓝光450nm	重量 Weight	~3.0kg

可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F100mm
-F150mm
-F200mm
-F250mm
-F300mm

BW240

透射式激光焊接头

Transmissive Laser Welding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

高性价比

High Compatibility

兼容市场上主流光纤激光器的波长范围，6KW功率范围的高性价比产品

Compatible with the wavelength range of mainstream fiber lasers on the market, and a cost-effective product with a power range of 6KW.

高效冷却

Efficient Cooling

准直镜和聚焦镜座均有优异的水冷，能够长时间稳定工作，延长使用寿命

Both collimating and focusing lens have excellent water cooling, which can work stably for a long time, and prolong the service life.

焊接效果优异

Excellent Welding Effect

采用优化的光学设计，完成深熔焊接，焊缝深宽比大，中厚板焊接更有利

With the optimized optical design, easy to realize the deep penetration welding, Larger ndepth-to-width ratio of the welding, more favorable to weld medium and thick plate.



*产品图片仅供参考

高度防尘

High Dustproof

双保护镜片设计，有效防止落灰引起镜片的损毁，增加焊接头使用寿命

Double protection lens design, effectively prevent the damage of the lens caused by falling ash, which prolong the service life of the welding head.

扩展模块丰富

Various Extension Module

可扩展焊缝跟踪或寻位功能等模块，易于实现自动化焊接

The welding seam tracking or locating function module can be expanded, easier to achieve automatic welding.

优质的气流设计

High-quality Airflow

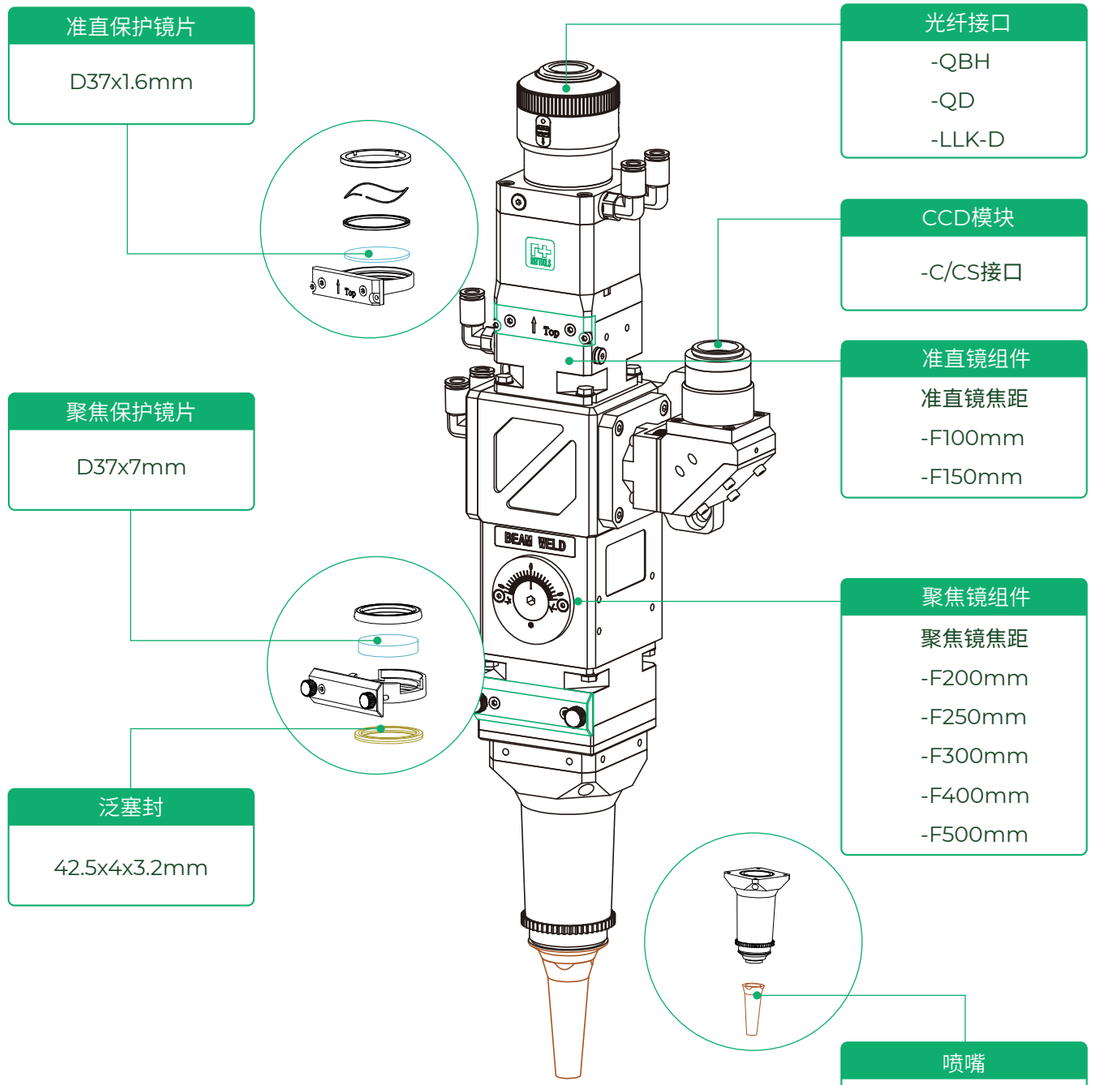
同轴、旁轴保护喷嘴和气刀采用平滑高效的流体结构设计，能获得优异的熔池保护效果与焊渣吹除效果

By using a smooth and efficient fluid structure design, the coaxial、side shaft protection nozzle and air knife can obtain excellent protection effect of the molten pool and the blow-down effect of the welding slag.

技术参数 Specifications

功率等级 Power Rating	6000W
激光波长 Laser Wavelength	1064nm

通光孔径 Clear Aperture	35mm
重量 Weight	~4.0kg



可选末端组件-气刀保护组件



短焦气刀保护组件



长焦气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F200mm
-F250mm
-F300mm

BW290-8W

宽波段焊接头

Wide Wavelength Welding Head

功率等级 Power Rating 8KW

更多信息请扫描二维码

Scan it for more details

高性价比

Cost-Effective

可适配高功率半导体及光纤激光焊接市场需求，适用于黑色金属及有色金属

Adaptable to high-power semiconductors and fiber laser welding market demand, suitable for black metals and non-ferrous metals.

智能监控

Intelligent Monitoring

可实时监测准直聚焦镜的工作温度及保护镜的插拔与否

Real-time monitoring of the operating temperature of the collimated focusing mirror and the insertion or removal of the protective mirror.

焊接效果优异

Excellent Welding Effect

优化的光学设计，实现高速、高质量的高功率激光焊接

Optimized optical design to achieve high-speed, high-quality high-power laser welding.



*产品图片仅供参考

高效冷却

Efficient Cooling

准直镜和聚焦镜座均设置水冷，能够长时间稳定工作，延长使用寿命

Both collimated and focused mirrors are water-cooled and can work stably for a long time and extend service life.

扩展模块丰富

Various Expansion Module

可扩展焊缝跟踪或寻位功能等模块，易于实现自动化焊接

The welding seam tracking or locating function module can be expanded, easier to achieve automatic welding.

优质的气流设计

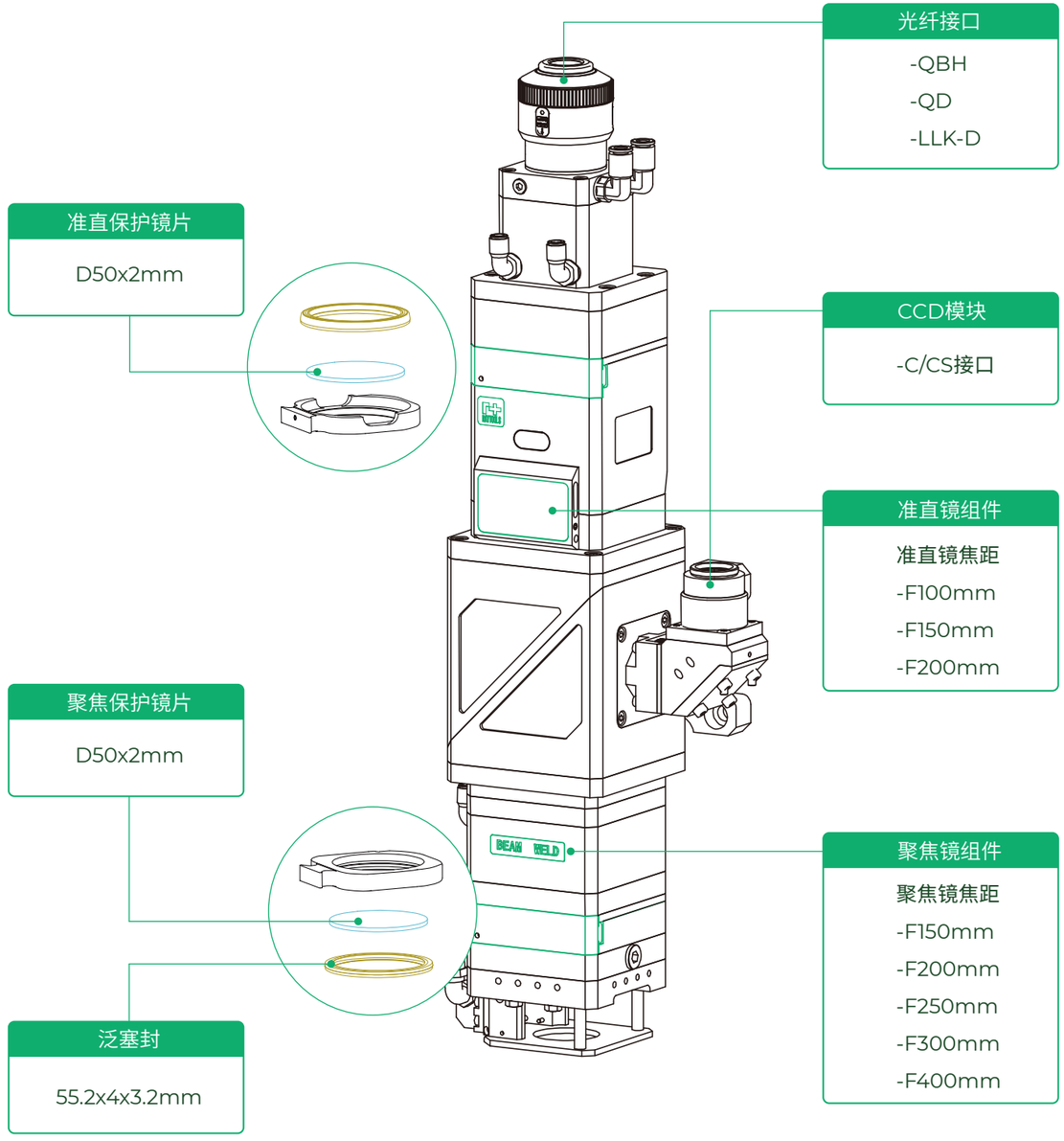
High-Quality Airflow

采用平滑高效的流体结构设计，能获得优异的熔池保护效果

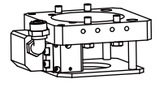
Using a smooth and efficient fluid structure design to obtain excellent melt pool protection effect.

技术参数 Specifications

功率等级 Power Rating	8000W	通光孔径 Clear Aperture	48mm
激光波长 Laser Wavelength	光纤1064nm，半导体 915nm	重量 Weight	~7.5kg

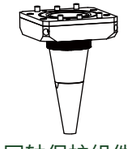


可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F150mm
-F200mm
-F250mm
-F300mm

BW290-6D

双波段复合焊接头

Hybrid Wavelength Welding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

焊接效果优异

Welding Automation

主要应用于高反材料焊接，提高焊缝质量，确保焊缝的一致性

Mainly used in high-reflection material welding to improve the quality of welds and ensure the consistency of welds.

扩展模块丰富

Various Expansion Module

可扩展焊缝跟踪或寻位功能等模块，易于实现自动化焊接

The welding seam tracking or locating function module can be expanded, easier to achieve automatic welding.



*产品图片仅供参考

抽屉式镜座

Drawer lense Assembly

保护镜片更换快速、简单

Fast and simple replacement of protective lenses.

高效水冷

Efficient Water Cooling

双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

高度防尘

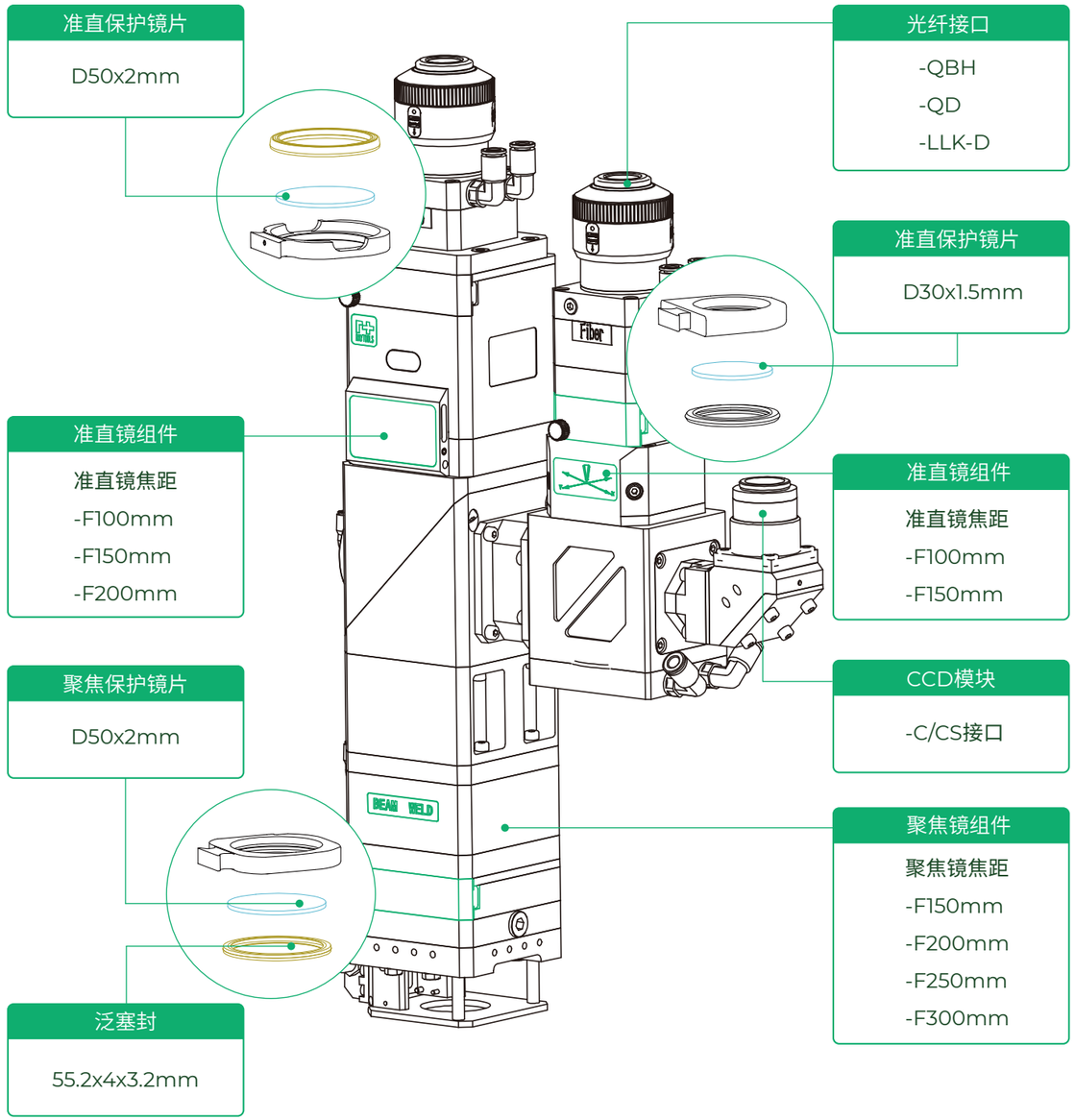
High Dustproof

牢靠的密封性设计，可以有效避免光学镜片污染，提高使用寿命

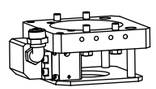
Double protection lens design, effectively prevent the damage of the lens caused by falling ash, which prolong the service life of the welding head.

技术参数 Specifications

功率等级 Power Rating	光纤4000W+半导体2000W	通光孔径 Clear Aperture	光纤35mm，半导体48mm
激光波长 Laser Wavelength	光纤1064nm，半导体915/450nm	重量 Weight	~9.2kg

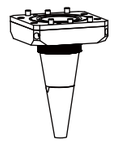


可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F150mm
-F200mm
-F250mm
-F300mm

BW290-6B

双波段复合摆动焊接头

Hybrid Wavelength Wobble Welding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

高功率焊接

High Power Rating

能够承受4KW(光纤)+2KW(半导体)高功率复合摆动焊接

Able to withstand 4KW (optical fiber) + 2KW (semiconductor) high-power composite swing welding.

高焊接质量

Process Advantages

低气孔率、高力学性能、高质量焊缝表面

Low porosity, high mechanical properties, high-quality weld surface.



*产品图片仅供参考

丰富的扫描图形

Rich Scanning Graphics

连续焊支持连续圆、连续直线、连续8型、连续方形、连续椭圆

Continuous welding support continuous circle, continuous straight line, continuous 8 type, continuous square, continuous ellipse.

抽屉式镜座

Drawer lense Assembly

保护镜片更换快速、简单

Fast and simple replacement of protective lenses.

高度防尘

High Dustproof

牢靠的密封性设计，可以有效避免光学镜片污染，提高使用寿命

Double protection lens design, effectively prevent the damage of the lens caused by falling ash, which prolong the service life of the welding head.

高效冷却

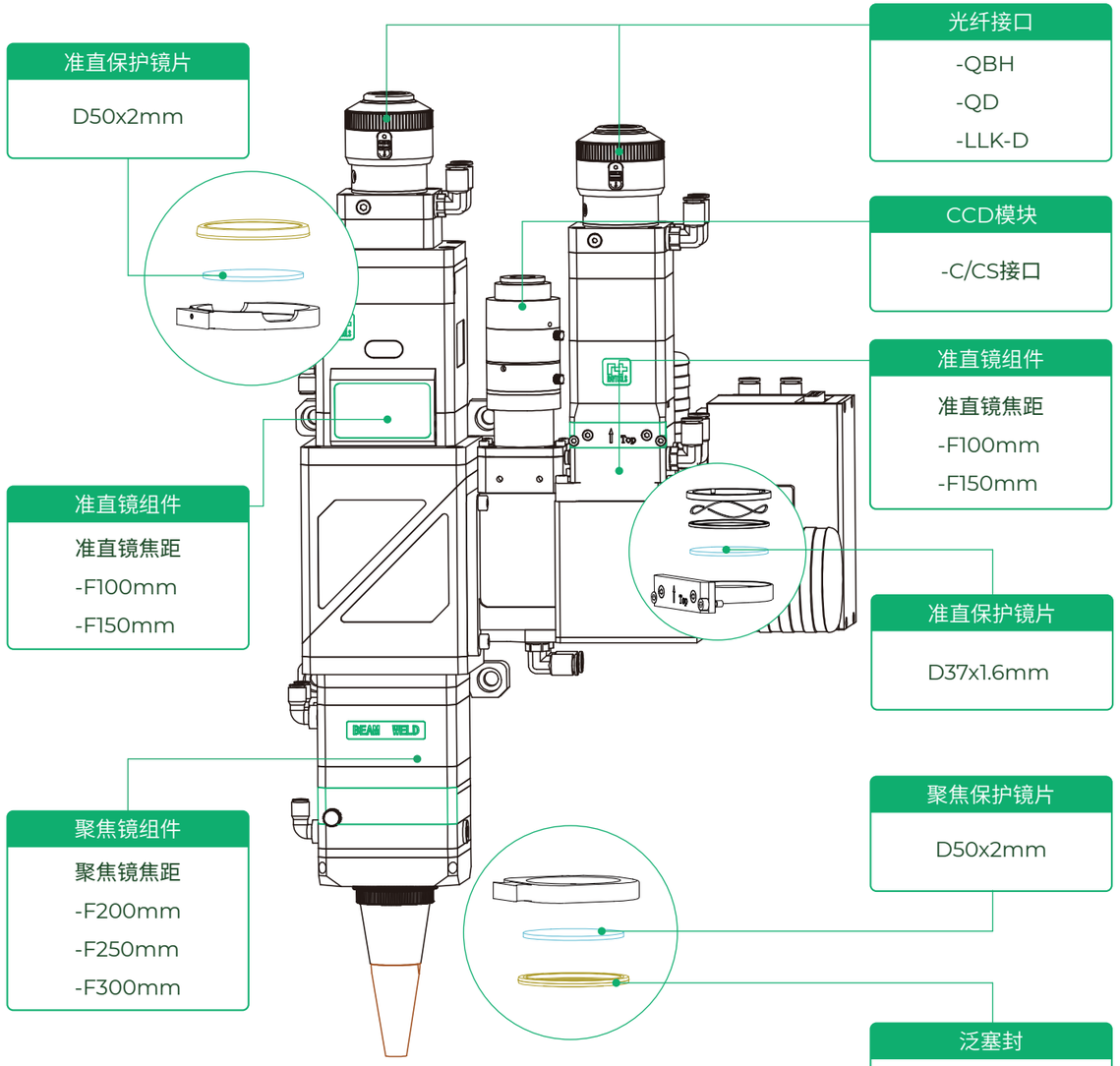
Efficient Cooling

双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

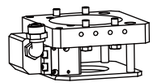
Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

技术参数 Specifications

功率等级 Power Rating	光纤4000W+半导体2000W	通光孔径 Clear Aperture	光纤30mm，半导体48mm
激光波长 Laser Wavelength	光纤1064nm，半导体915/450nm	重量 Weight	~12.0kg

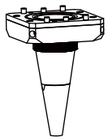


可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F200mm
-F250mm
-F300mm

BW290-ZOOM

自动变焦智能焊接/熔覆/淬火头

Automatic Zoom Smart Welding/Cladding/Quenching Head

更多信息请扫描二维码
Scan it for more details

功率等级
Power Rating 6KW



*产品图片仅供参考

自动变焦调节

Welding Automation

自动调焦以及光斑大小的调节

Automatic focusing and spot size adjustment.

高度兼容

Excellent Welding Effect

可兼容不同类型的激光器，可用于
焊接、熔覆、淬火于一体

Compatible with different types of lasers, and can be used for welding, cladding and quenching in one.

高效冷却

Efficient Cooling

双水冷结构设计，保护镜镜座及激光头本体带有
水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

抽屉式镜座

Drawer lense Assembly

保护镜片更换快速、简单

Fast and simple replacement of protective lenses.

智能监测

Intelligent Sensing

可实时监测保护镜的工作温度

Real-time monitoring of the working temperature of the protective mirror.

扩展模块丰富

Various Expansion Module

可扩展焊缝跟踪或寻位功能等模块，
易于实现自动化焊接

The welding seam tracking or locating function module can be expanded, easier to achieve automatic welding.

可变圆形光斑示例

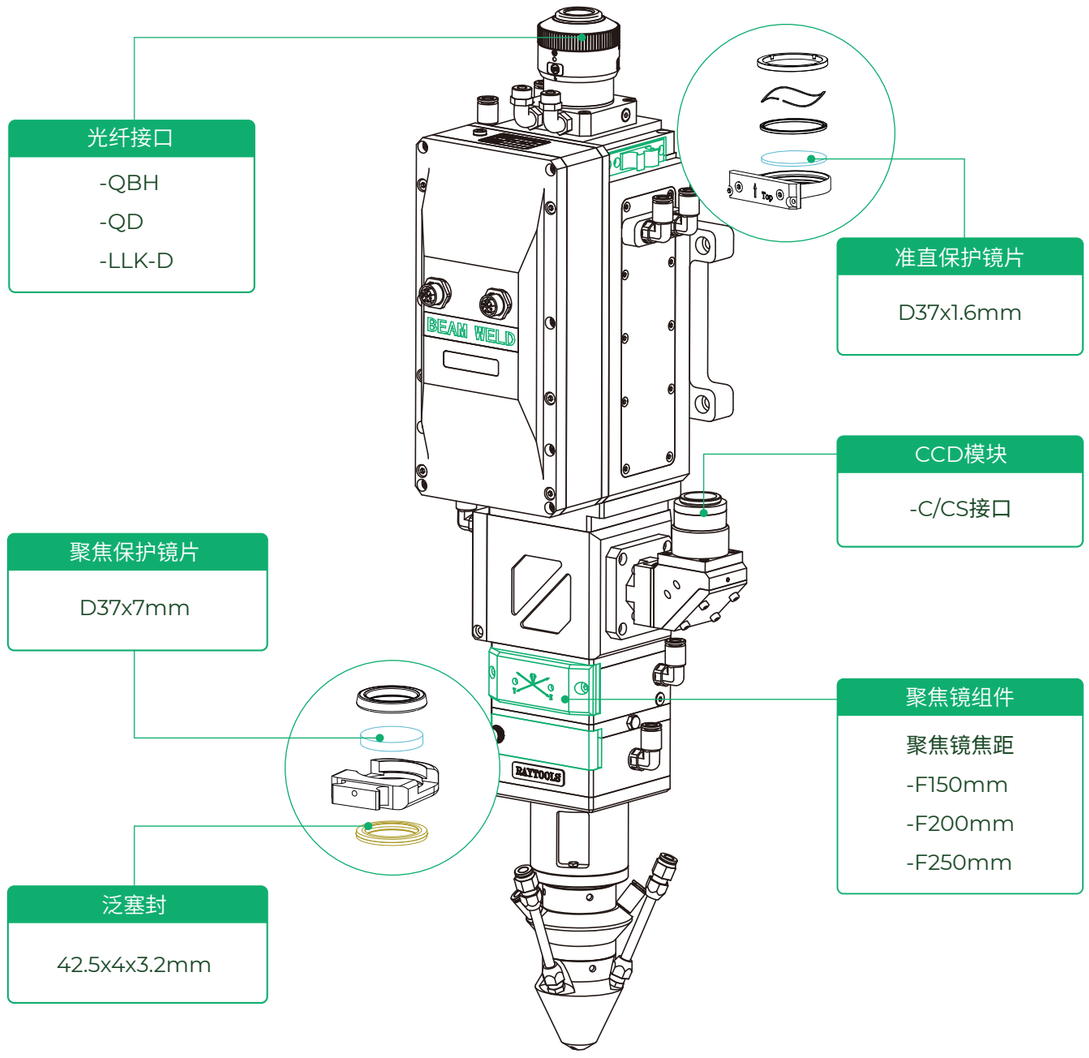
光纤激光器 (NA≤0.09)	聚焦F		
光纤芯径 100um	150mm	0.12mm	0.45mm
	200mm	0.16mm	0.6mm
	250mm	0.2mm	0.75mm
光纤芯径 200um	150mm	0.24mm	0.9mm
	200mm	0.32mm	1.2mm
	250mm	0.4mm	1.5mm
光纤芯径 400um	150mm	0.48mm	1.8mm
	200mm	0.64mm	2.4mm
	250mm	0.8mm	3mm

可变圆形光斑示例

半导体激光器 (NA≤0.22)	聚焦F		
光纤芯径 100um	150mm	0.204mm	0.45mm
	200mm	0.272mm	0.6mm
	250mm	0.34mm	0.75mm
光纤芯径 200um	150mm	0.408mm	0.9mm
	200mm	0.544mm	1.2mm
	250mm	0.64mm	1.5mm
光纤芯径 400um	150mm	0.816mm	1.8mm
	200mm	1.088mm	2.4mm
	250mm	1.28mm	3mm

技术参数 Specifications

功率等级 Power Rating	6000W
激光波长 Laser Wavelength	1064nm
通光孔径 Clear Aperture	37mm
重量 Weight	~10.0kg



光纤接口
-QBH
-QD
-LLK-D

准直保护镜片
D37x1.6mm

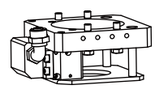
CCD模块
-C/CS接口

聚焦保护镜片
D37x7mm

聚焦镜组件
聚焦镜焦距
-F150mm
-F200mm
-F250mm

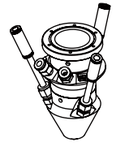
泛塞封
42.5x4x3.2mm

可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-熔覆喷嘴



熔覆喷嘴

- 三路送粉喷嘴
- 同轴环形送粉喷嘴

BW310

双焦点旋转焊接头

Double Focus Rotating Welding Head

功率等级 Power Rating 4KW

更多信息请扫描二维码
Scan it for more details

间隙容忍度高

High Tolerance of Clearance

焊接间隙较大时，调节光斑间距可显著改善焊接质量，焊缝形貌更美观

When the weld gap is large, the adjustment of the light spot spacing can improve the welding quality significantly, and the weld apearance is more beautiful.

光斑间距与位置可调

Adjustable Spot Spacing & Position

通过传动机构可以实现光斑方向的调节，此外，通过精密调节机构，能够实现光斑距离的调节，满足不同焊缝焊接需求

The adjustment of the spot direction can be achieved through the transmission mechanism. In addition, through the precise adjustment mechanism, the adjustment of the spot distance can be realized to meet the welding requirements of different welds.

光斑能量分布可调

The distribution of beam spot energy can be adjusted.

光斑能量分布调节范围：
23%:77% — 77%:23%

Regulation range of spot energy distribution:
23%:77% — 77%:23%



*产品图片仅供参考

特种焊接更有利

Beneficial Special Welding

针对不等厚拼焊、异种材料焊、镀锌板焊接等特殊焊接，效果更稳定，质量更优异

For special welding, such as unequal welding, welding of foreign material and galvanized sheet, the effect is more stable and the quality is better.

扩展模块丰富

Various Extenson Module

可扩展焊缝跟踪或寻位功能等模块，易于实现自动化焊接

The welding seam tracking or locating function module can be expanded, easier to achieve automatic welding.

优质的气流设计

High-quality Airflow

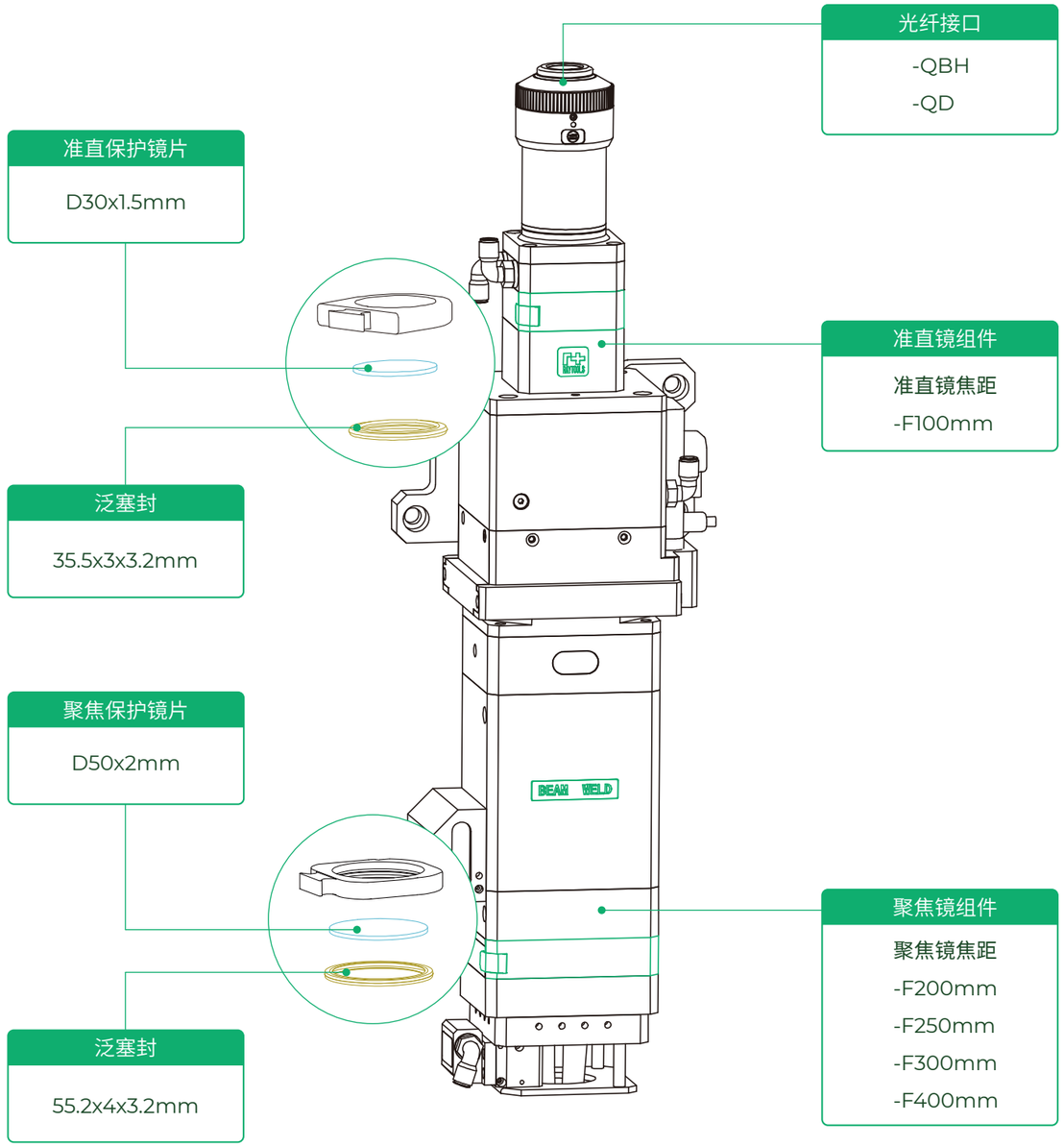
旁轴保护喷嘴和气刀采用平滑高效的流体结构设计，能获得优质的熔池保护效果与焊渣吹除效果

The side-axle protective nozzle and air knife adopt smooth and efficient fluid structure design, which can obtain excellent pool protection effect and slag blowing effect.

技术参数 Specifications

功率等级 Power Rating	4000W
激光波长 Laser Wavelength	1064nm
回旋范围 Rotation Range	0-360°
通光孔径 Clear Aperture	37mm

辅助气体气压 Assist Gas Pressure	
- 气刀 Air Knife	6bar
- 焊接保护气 Protection Air	10-25L/min
重量 Weight	~8.5kg



BF320

同轴搅拌焊接头

Coaxial Wobble Welding Head

功率等级 Power Rating 3KW

更多信息请扫描二维码

Scan it for more details

高焊接质量

Process Advantages

提高焊缝表面平滑度，减小焊接内部气孔，
提高焊缝强度；减少在焊接过程中的飞溅

Improve the surface smoothness of the weld, reduce the internal pores of the weld, and increase the strength of the weld; reduce the spatter during the welding process.



*产品图片仅供参考

抽屉式镜座

Drawer lense Assembly

保护镜片更换快速、简单

Fast and simple replacement of protective lenses.

高效水冷

Efficient Water Cooling

整体循环水冷，能够在高功率下
长时间稳定地工作

Integral circulating water cooling, able to work stably for a long time under high power.

图形可调

Adjustable Graphics

画圆图形大小可调，频率可调

The size of the circle drawing is adjustable, and the frequency is adjustable.

高效防尘

Exellent Dustproof

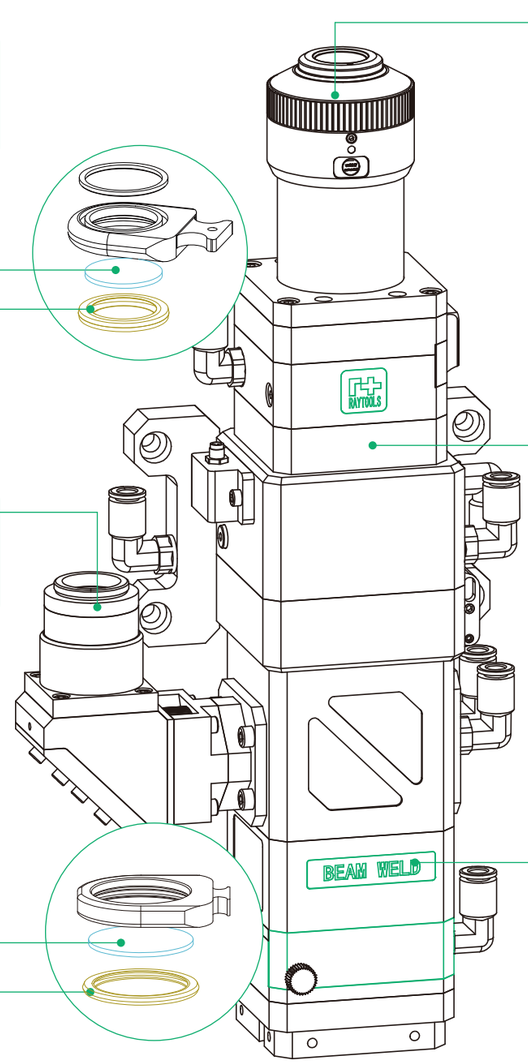
牢靠的密封性设计，提高使用寿命

Reliable sealing design, improve service life.

技术参数 Specifications

功率等级 Power Rating	3000W
激光波长 Laser Wavelength	1064nm
画圆范围 Circle Drawing Range	0-4mm (聚焦250mm)
画圆频率 Circle Frequency	0-200Hz

通光孔径 Clear Aperture	20mm
辅助气体气压 Assist Gas Pressure	6bar
重量 Weight	~4.5kg



光纤接口

-QBH

准直保护镜片

D24.9x1.5mm

泛塞封

29.2x21x3.55mm

CCD模块

-C/CS接口

准直镜组件

准直镜焦距

-F75mm

-F100mm

聚焦保护镜片

D37x1.6mm

聚焦镜组件

聚焦镜焦距

-F200mm

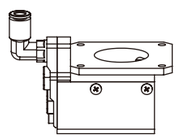
-F250mm

-F300mm

泛塞封

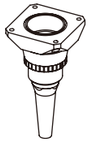
41.2x4x3.2mm

可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F200mm

-F250mm

BF330-2S

摆动焊接头

Wobble Welding Head

功率等级 Power Rating 2KW

更多信息请扫描二维码

Scan it for more details

模式丰富

Rich Pattern

显示屏控制，兼容脱机，PC控制等工作模式

Screen control, compatible with offline, PC control and other working modes.

工艺特点

Process Characteristics

8种摆动图形，适用不同的工艺需求

8 kinds of swing graphics, suitable for different process requirements.

优化设计

Optimization Design

双保护窗设计，防尘防渣设计，

高效水冷，稳定可靠

Double protection window design, dustproof and slag proof design, efficient water cooling, stable and reliable.



*产品图片仅供参考

配置丰富

Abundant Configuration

提供相机、工业镜头、监视器和蓝光光源

Provides cameras, industrial lenses, monitors and blue light sources.

优质光学方案

High Quality Optical Solution

针对监视特别优化的光学方案，

让焊接过程清晰可见

Specially optimized optical scheme for monitoring, making the welding process visible.

稳定便捷

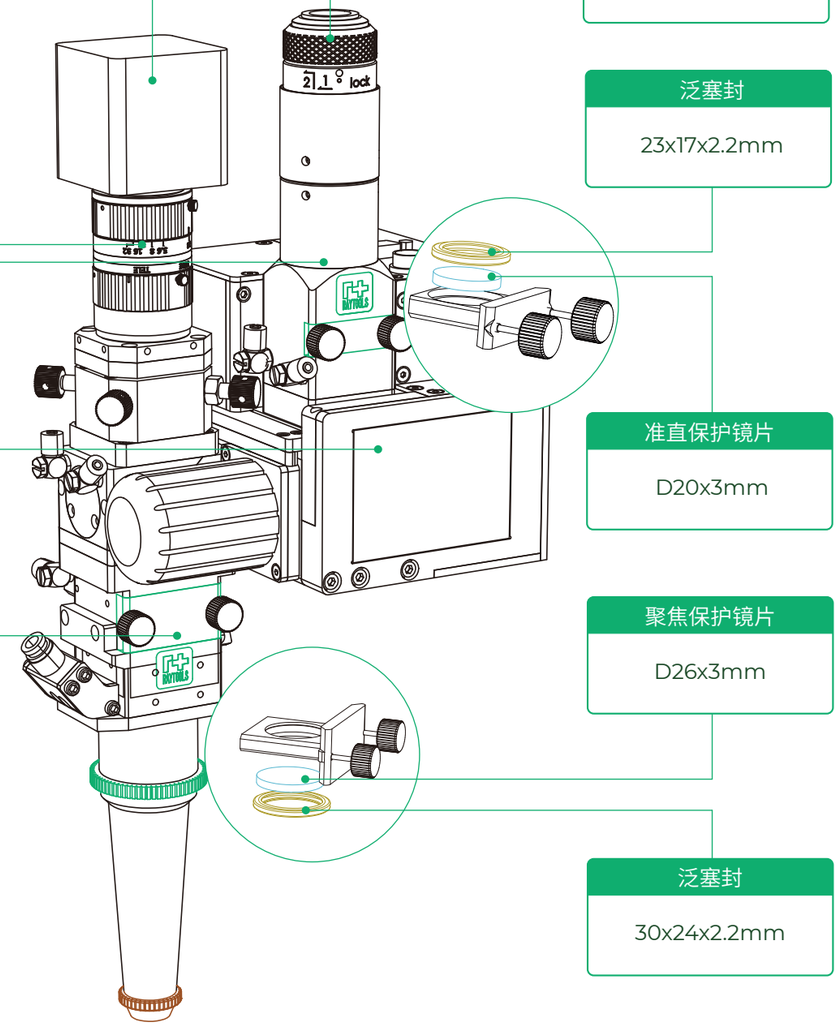
Stable and Convenient

驱控一体化，抗干扰能力强，外部接线简单

Drive control integration, strong anti-interference ability, simple external wiring.

技术参数 Specifications

功率等级 Power Rating	2000W	通光孔径 Clear Aperture	20mm
X轴摆动幅度 X Axis Oscillation Amplitude	0-5mm	摆动频率 Oscillation Frequency	0-500Hz
Y轴摆动幅度 Y Axis Oscillation Amplitude	0-5mm	重量 Weight	~3.0kg



相机

高清监视相机

光纤接口

-QBH

工业镜头

焦距100工业镜头

泛塞封

23x17x2.2mm

准直镜组件

准直镜焦距

-F100mm

准直保护镜片

D20x3mm

控制屏

控制屏

聚焦保护镜片

D26x3mm

聚焦镜组件

聚焦镜焦距

-F200mm

-F300mm

泛塞封

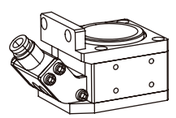
30x24x2.2mm

其他配置

-7寸显示屏

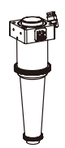
-可调焦距蓝光灯

可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-直吹头组件



直吹头组件

可选末端组件-侧吹保护组件



侧吹保护喷嘴

BF330-2F

摆动焊接头

Wobble Welding Head

功率等级 Power Rating 2KW

更多信息请扫描二维码

Scan it for more details

优异的焊接质量

Better Welding Quality

大焊缝、低气孔率、高力学性能、高表面质量

Large weld, low porosity, high mechanical properties and high surface quality.



*产品图片仅供参考

丰富的扫描图形

Rich Scanning Graphics

连续焊支持圆形、方形、直线、椭圆、C 形、S 形、8形

Continuous welding supports round, square, straight line, ellipse, C type, S type, 8 type.

丰富的模块选择

Rich Module Selection

可适配旁轴线光源实现TCP校准、旁轴蓝光点光源实现CCD图像照明、位置传感器实现寻位跟踪、温度传感器实现等熔深焊接、旁轴送丝机构实现填丝焊

TCP calibration can be achieve by adapting side-axis light source, CCD image illumination can be achieved by side-axis blue-spot light source, positioning tracking can be realized by position sensor, temperature sensor can realize penetration welding, and wire filling can be realized by side-axis wire feeding mechanism.

轻型中低功率扫描焊接头

Light Medium and Low Power Scanning Welding Head

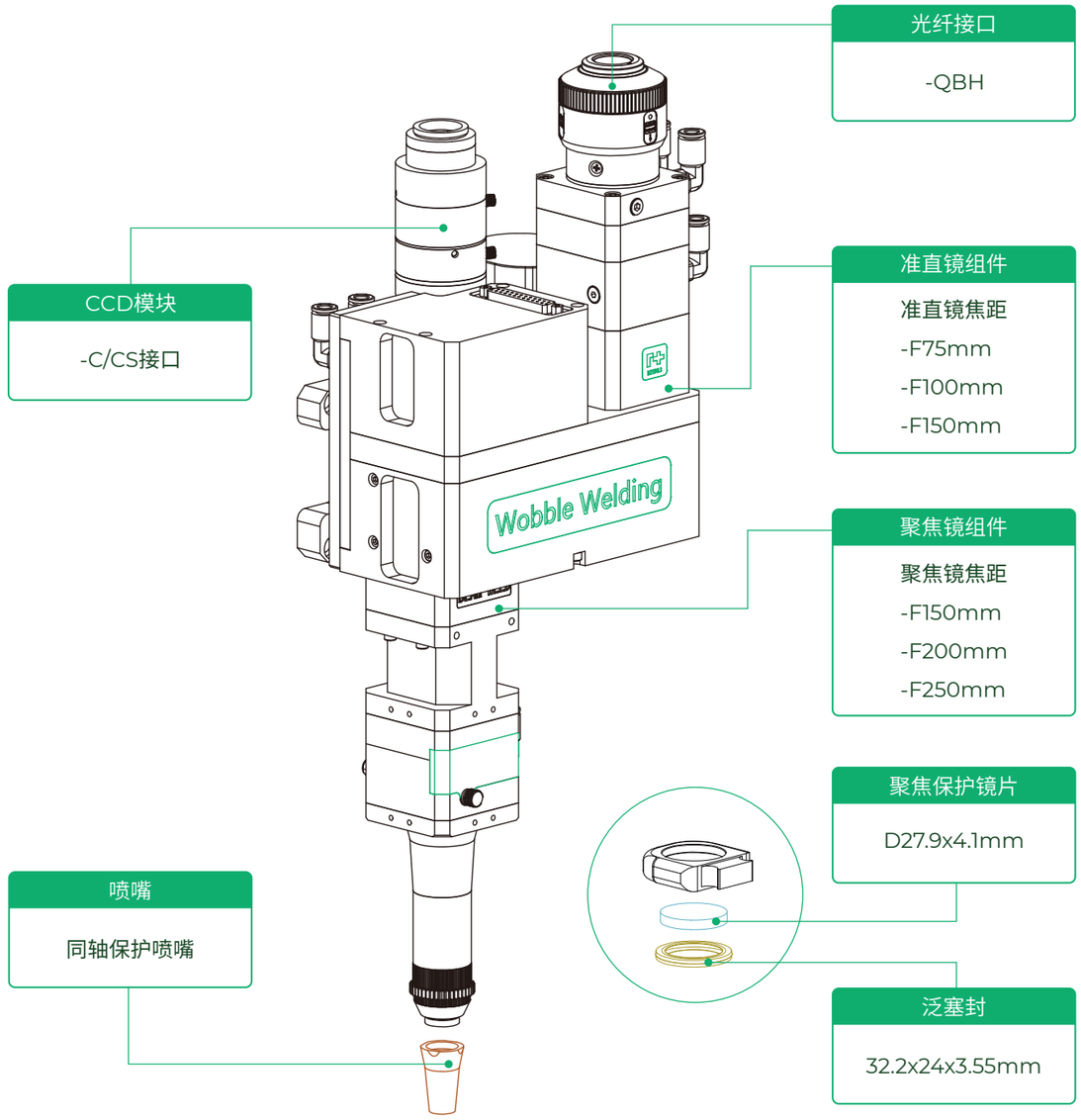
最高激光承受功率2KW，整机重量约5.5kg

The maximum laser power is 2KW and the weight of the whole head is about 5.5kg.

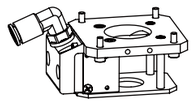
技术参数 Specifications

功率等级 Power Rating	2000W
激光波长 Laser Wavelength	1064nm
搅拌频率 Wobble Frequency	≤1500Hz（取决于搅拌直径） (Depends on the wobble diameter)
通光孔径 Clear Aperture	24mm

辅助气体气压 Assist Gas Pressure	
- 气刀 Air Knife	6bar
- 焊接保护气 Protection Air	25L/min
重量 Weight	~5.5kg



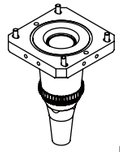
可选末端组件-气刀保护组件



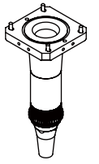
气刀保护组件

可选末端组件-同轴保护组件

-F150mm
-F200mm



-F250mm



同轴保护组件

BF330-4F

摆动焊接头

Wobble Welding Head

功率等级 4KW

Power Rating

更多信息请扫描二维码

Scan it for more details

高承受功率

High Power Rating

最大可承受功率高达4kW，满足高功率焊接市场需求

The maximum power can be up to 4kW to meet the demand of high power welding market.



*产品图片仅供参考

易于实现自动化

Easy to Automate

可拓展焊缝跟踪或寻位功能，易于实现机器人自动化集成

The weld tracking or locating function can be expanded, easy to realize the robot automation integrated.

优质的气流设计

High-quality Airflow

同轴、旁轴保护喷嘴和气刀采用平滑高效的流体结构设计，能获得优质的熔池保护效果与焊渣吹除效果

With smooth and efficient fluid structure of the coaxial、side-axis protection and the air knife design, obtain excellent protections effect of the molten pool and the efficiency blow-down of the welding slag.

扫描频率高，运动路径多

High Wobble Frequency
Diverse Wobble Paths

优化的光学结构及运动机构，不同的搅拌路径和高搅拌频率来满足不同高速搅拌焊接的需求

Optimized optical structure and motion mechanism, different wobble paths high wobble frequency to meet the requirements of different high speed stirring welding.

工艺优点

Process Advantages

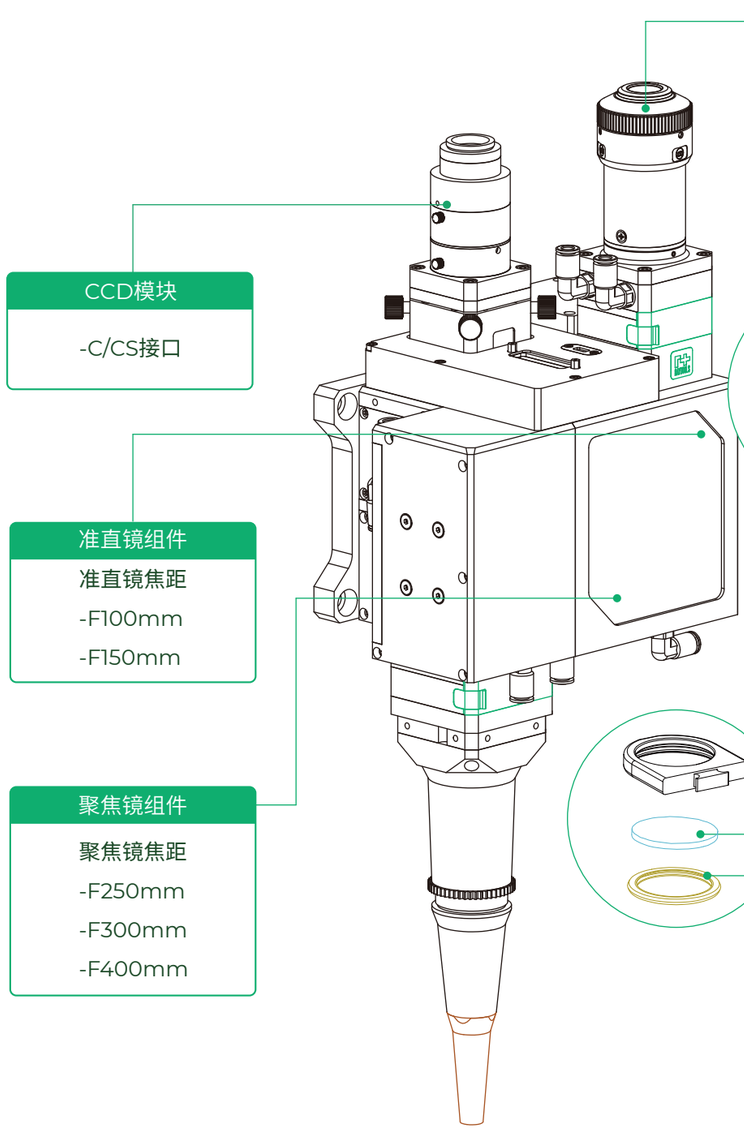
增加熔宽
增加间隙适应性
减少焊缝缺陷
优异的成型效果

Increase welding width
Increase gap adaptability
Reduce seam defects
Excellent molding effect

技术参数 Specifications

功率等级 Power Rating	4000W
激光波长 Laser Wavelength	光纤1064nm
搅拌频率 Wobble Frequency	≤1500Hz（取决于搅拌直径） (Depends on the wobble diameter)

通光孔径 Clear Aperture	30mm
重量 Weight	~9.0kg



CCD模块
-C/CS接口

准直镜组件
准直镜焦距
-F100mm
-F150mm

聚焦镜组件
聚焦镜焦距
-F250mm
-F300mm
-F400mm

光纤接口
-QBH
-QD

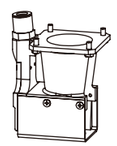
准直保护镜片
D30x1.5mm

泛塞封
35.5x3x3.2mm

聚焦保护镜片
D38x2mm

泛塞封
41.2x4x3.2mm

可选末端组件-气刀保护组件



长焦气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F250mm
-F300mm
-F400mm

BF330-6F

摆动焊接头

Wobble Welding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

高功率焊接

High Power Rating

最高能够承受6KW高功率摆动焊接

The maximum power can be up to 6kW to meet the demand of high power welding market.

优异的焊接质量

Better Welding Quality

低气孔率、高力学性能、高质量焊缝表面

Low porosity, high mechanical properties, high-quality weld surface.

丰富的扫描图形

Rich Scanning Graphics

连续焊支持圆形、方形、直线、椭圆、C 形、S 形、8形

Continuous welding supports round, square, straight line, ellipse, C type, S type, 8 type.



*产品图片仅供参考

扩展模块丰富

Various Extension Module

可扩展温度传感器、焊缝跟踪或寻位等功能模块，易于实现自动化焊接

The temperature sensor, welding seam tracking or locating function can be expanded, easier to achieve automatic welding.

抽屉式镜座

Drawer lense Assembly

保护镜片更换快速、简单

Fast and simple replacement of protective lenses.

高效水冷

Efficient Water Cooling

整体循环水冷，能够在高功率下长时间稳定地工作

Integral circulating water cooling, able to work stably for a long time under high power.

高效防尘

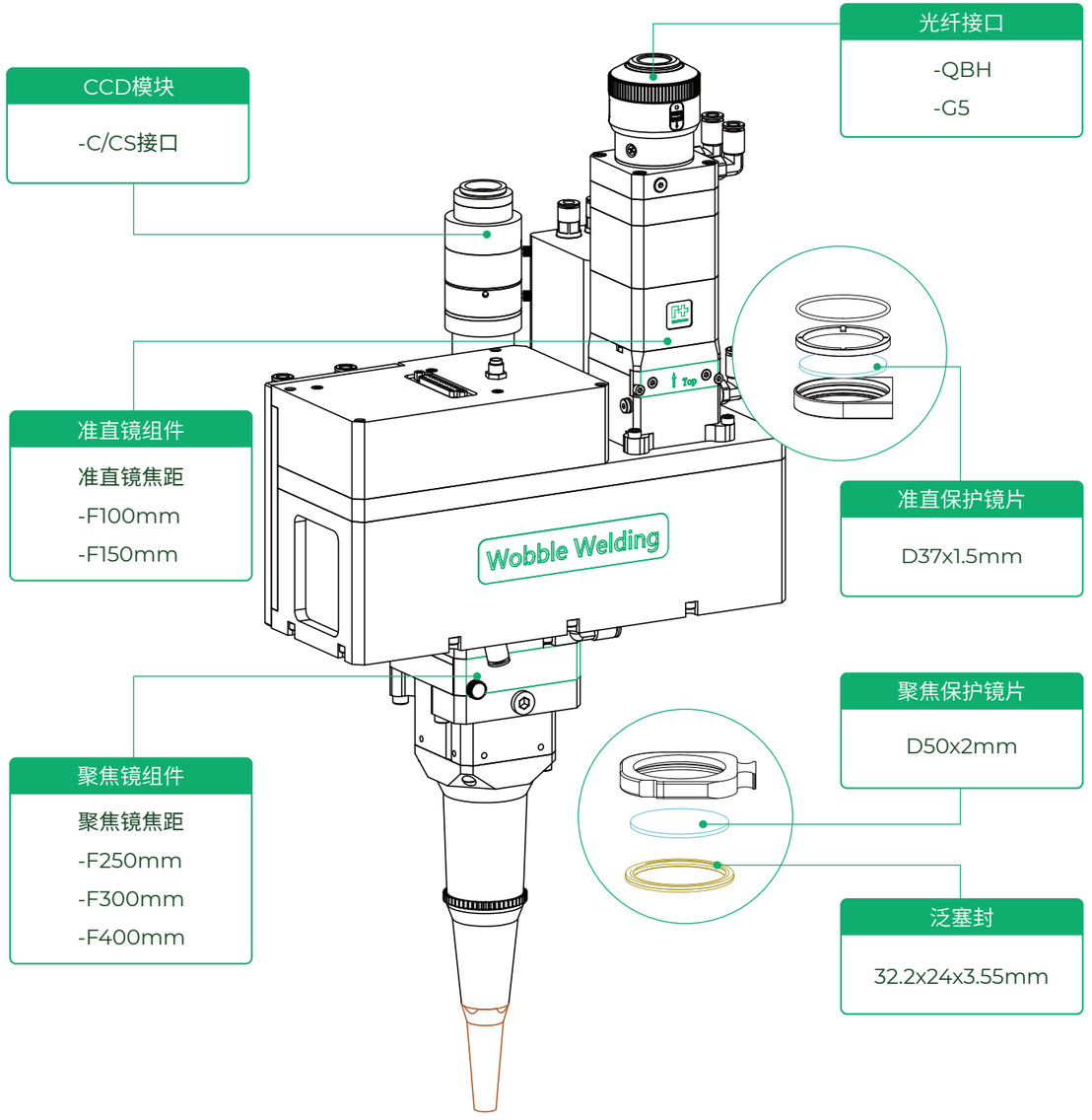
Exellent Dustproof

牢靠的密封性设计，提高使用寿命

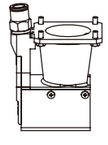
Reliable sealing design, improve service life.

技术参数 Specifications

功率等级 Power Rating	6000W	通光孔径 Clear Aperture	30mm
激光波长 Laser Wavelength	光纤1064nm	辅助气体气压 Assist Gas Pressure	6bar
扫描幅面 Scan Format	Φ15mm	重量 Weight	~12.0kg
扫描线速度 Scan Format	≤2800mm/s		

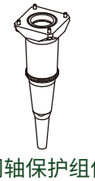


可选末端组件-气刀保护组件



长焦气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F250mm
-F300mm
-F400mm

BF330-2C

振镜焊接头

Galvanometer Welding Head

功率等级 Power Rating 2KW

更多信息请扫描二维码

Scan it for more details

优异的焊接质量

Better Welding Quality

低气孔率、高力学性能、高质量焊缝表面

Low porosity, high mechanical properties, high-quality weld surface.



丰富的扫描图形

Rich Scanning Graphics

可以根据工艺需求在平面内定制任意加工轨迹，实现大范围加工，F-theta透镜实现聚焦和快速扫描、跳转

Any processing track can be customized in the plane according to process requirements to achieve large-scale processing. F-theta lens can achieve focusing and rapid scanning and jumping.

*产品图片仅供参考

扩展模块丰富

Various Extension Module

可扩展温度传感器、焊缝跟踪或寻位等功能模块，易于实现自动化焊接

The temperature sensor, CCD and laser vision seam tracking interfaces can be expanded, easier to achieve automatic welding.

高效防尘

Exellent Dustproof

牢靠的密封性设计，提高使用寿命

Reliable sealing design, improve service life.

高效水冷

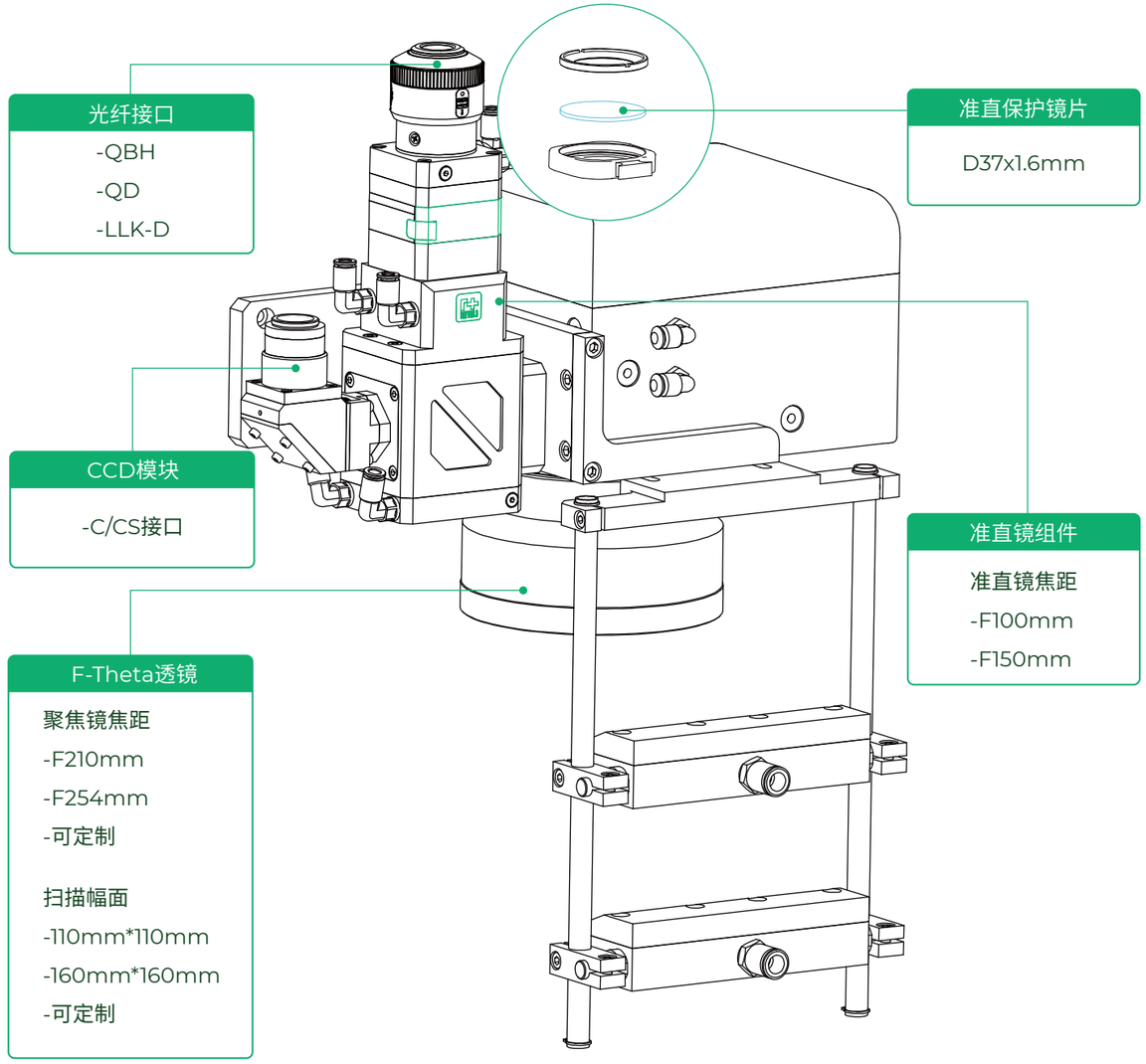
Efficient Water Cooling

整体循环水冷，能够在高功率下长时间稳定地工作

Integral circulating water cooling, able to work stably for a long time under high power.

技术参数 Specifications

功率等级 Power Rating	2000W	通光孔径 Clear Aperture	30mm
激光波长 Laser Wavelength	1064nm	重量 Weight	~14.0kg



BF330-6C

振镜焊接头

Galvanometer Welding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

高功率焊接

High Power Rating

最高能够承受6KW高功率振镜焊接

The maximum power can be up to 6kW to meet the demand of high power welding market.

优异的焊接质量

Better Welding Quality

低气孔率、高力学性能、高质量焊缝表面

Low porosity, high mechanical properties, high-quality weld surface.

丰富的扫描图形

Rich Scanning Graphics

可以根据工艺需求在平面内定制任意加工轨迹，实现大范围加工，F-theta透镜实现聚焦和快速扫描、跳转

Any processing track can be customized in the plane according to process requirements to achieve large-scale processing. F-theta lens can achieve focusing and rapid scanning and jumping.



*产品图片仅供参考

扩展模块丰富

Various Extension Module

可扩展温度传感器、焊缝跟踪或寻位等功能模块，易于实现自动化焊接

The temperature sensor, CCD and Laser vision seam tracking interfaces can be expanded, easier to achieve automatic welding.

高效水冷

Efficient Water Cooling

整体循环水冷，能够在高功率下长时间稳定地工作

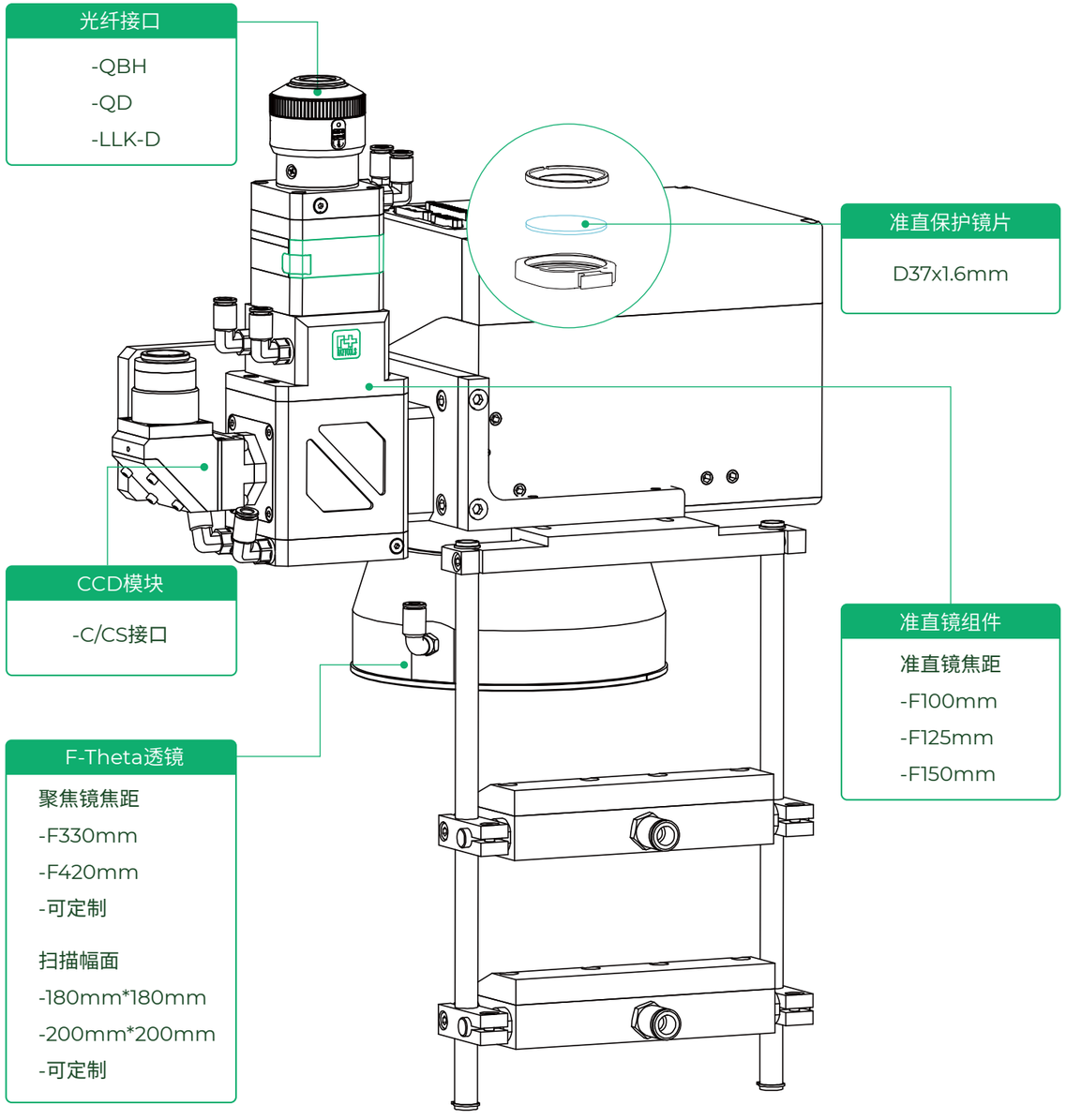
Integral circulating water cooling, able to work stably for a long time under high power.

高效防尘

Exellent Dustproof

牢靠的密封性设计，提高使用寿命

Reliable sealing design, improve service life.



技术参数 Specifications

功率等级 Power Rating	6000W	通光孔径 Clear Aperture	30mm
激光波长 Laser Wavelength	1064nm	重量 Weight	~20.0kg

AK090

反射式激光焊接头

Reflective Laser Welding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

高承受功率

High Power Rating

单铜镜直接水冷，镜片使用寿命长，最高功率可达6KW

Adapted direct water-cooled copper lens, with a long service life , maximum power rating can reach to 6KW.



*产品图片仅供参考

重量轻便

Lightweight

降低机床负载，完成高速加工

Light-duty to reduce the payloac of machine tool and fulfill high speed processing.

体积小巧

Compact and Agile

较小的体积，方便实现狭小位置焊接

Compact size with easy access to narrow space.

高效水冷

Efficient Water Cooling

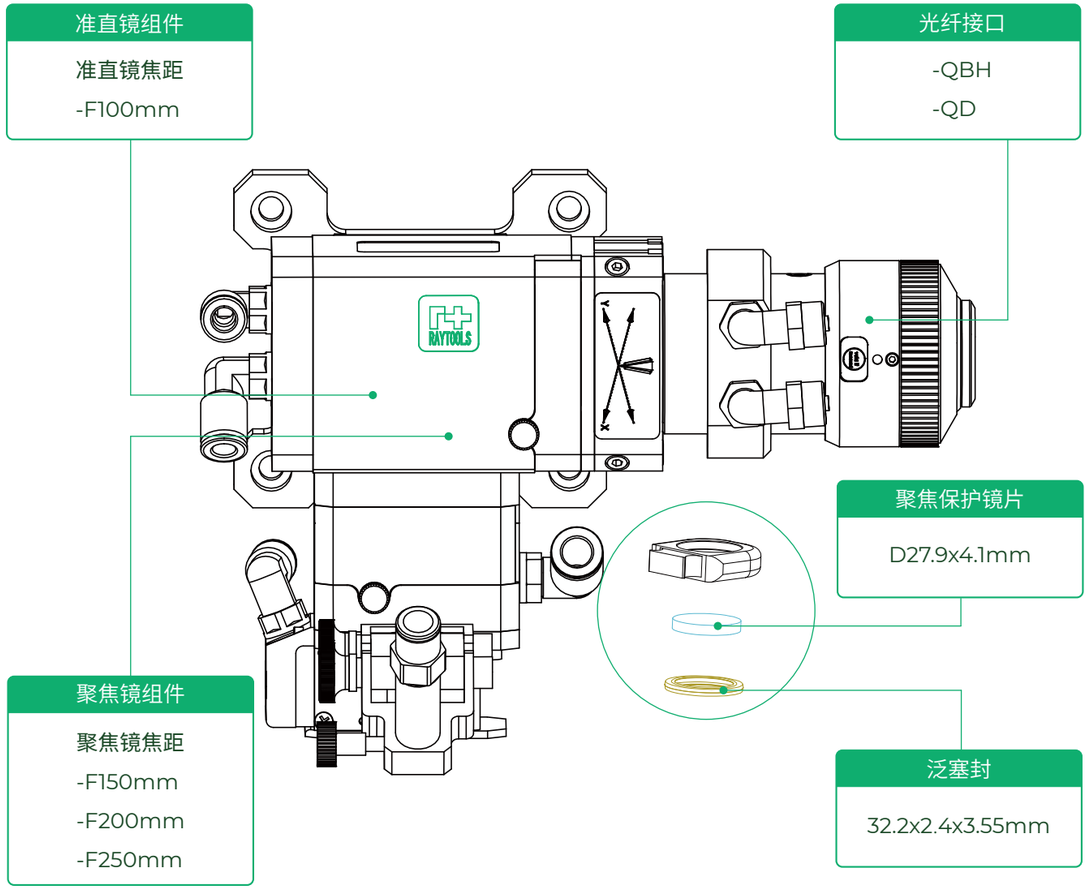
双水冷结构设计，保护镜镜座及激光头本体带有水冷接口

Dual-water cooling circuits as well as water cooling to cover glass holder and body of laser welding head.

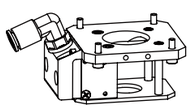
技术参数 Specifications

功率等级 Power Rating	6000W
通光孔径 Clear Aperture	32mm

辅助气体气压 Assist Gas Pressure	
- 气刀 Air Knife	8bar
- 焊接保护气 Protection Air	≤25L/min
重量 Weight	~2.0kg

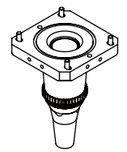


可选末端组件-气刀保护组件



气刀保护组件

可选末端组件-同轴保护组件



同轴保护组件

-F150mm
-F200mm
-F250mm

AK390-BW

高功率多功能激光加工头——焊接

High Power Multifunctional Laser Processing Head——Welding

更多信息请扫描二维码
Scan it for more details

功率等级 20KW
Power Rating



*产品图片仅供参考

高承受功率

High Power Rating

采用直接水冷式铜镜，镜片使用寿命长，最高功率可达20KW

Adapted direct water-cooled copper lens, with a long service lif, maximum power rating can reach to 20KW.

高效水冷

Efficient Water Cooling

双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

更加优异的焊接质量

Better Welding Quality

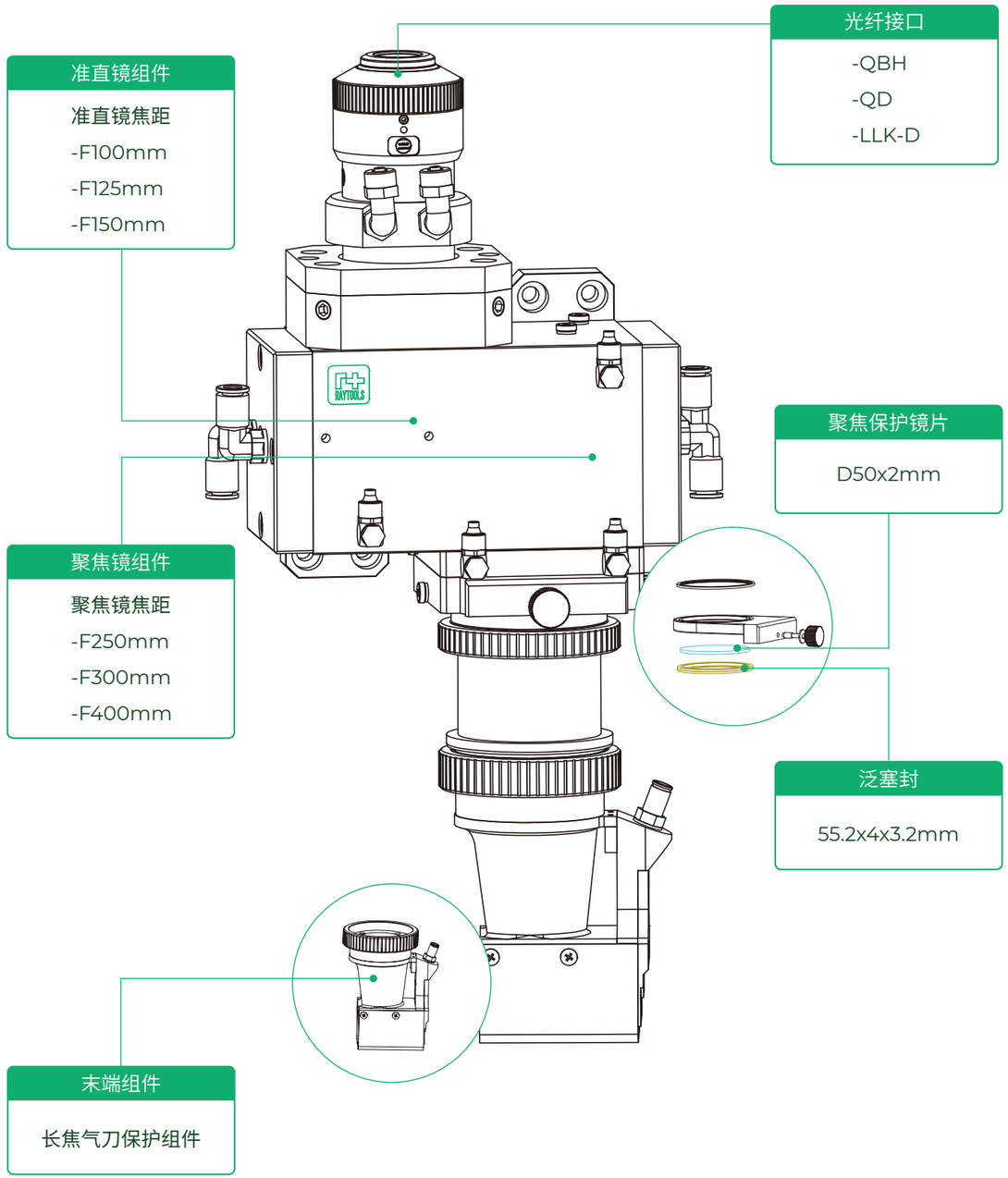
显著提高焊接速度、高表面质量焊接

Significant improvement of welding speed and high surface quality.

技术参数 Specifications

功率等级 Power Rating	4000W
通光孔径 Clear Aperture	48mm

辅助气体气压 Assist Gas Pressure	
- 气刀 Air Knife	6bar
- 焊接保护气 Protection Air	≤25L/min
重量 Weight	~4.0kg



AK190-TC

反射式激光加工头——熔覆

Reflective Laser Processing Head——Cladding

功率等级 Power Rating 6KW

更多信息请扫描二维码

Scan it for more details

高承受功率

High Power Rating

采用直接水冷式铜镜，镜片使用寿命长，最高功率可达6KW

Adapted direct water-cooled copper lens, with a long service lif, maximum power rating can reach to 6KW.



*产品图片仅供参考

高效水冷

Efficient Water Cooling

双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

高度兼容

High Compatibility

具备多种光纤接口，可与各种激光器进行适配

Various fiber interfaces to match various mainstream lasers.

焦距定制化

Focal Length Customization

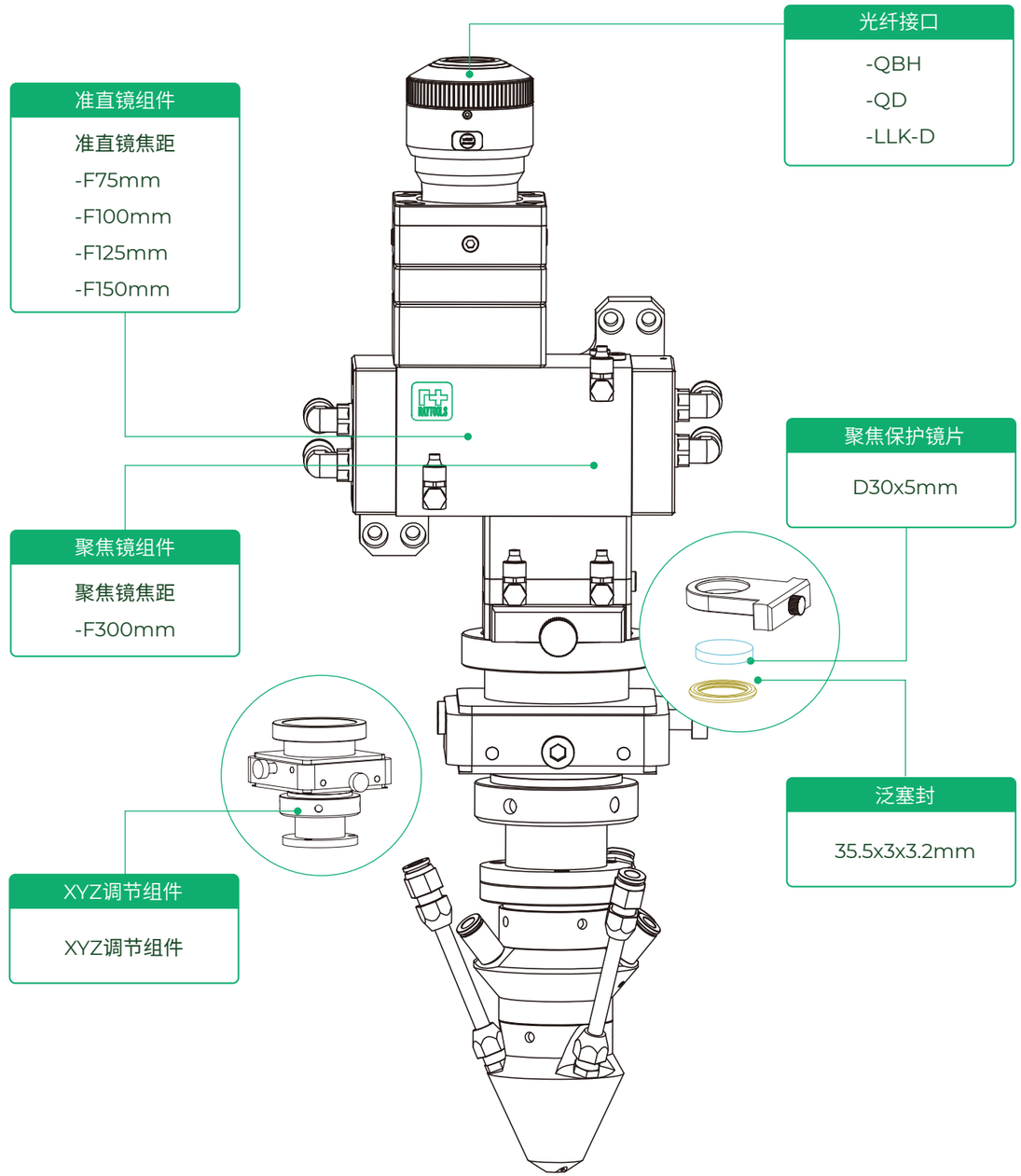
丰富的准直、聚焦配置，可定制化，满足不同客户需求

Various collimation and focusing configuration can be customized to meet different customer demands.

技术参数 Specifications

功率等级 Power Rating	6000W
辅助气体气压 Assist Gas Pressure	≤5bar
内增压气压 Internal Gas Pressure	≤2bar

通光孔径 Clear Aperture	32mm
重量 Weight	~5.0kg



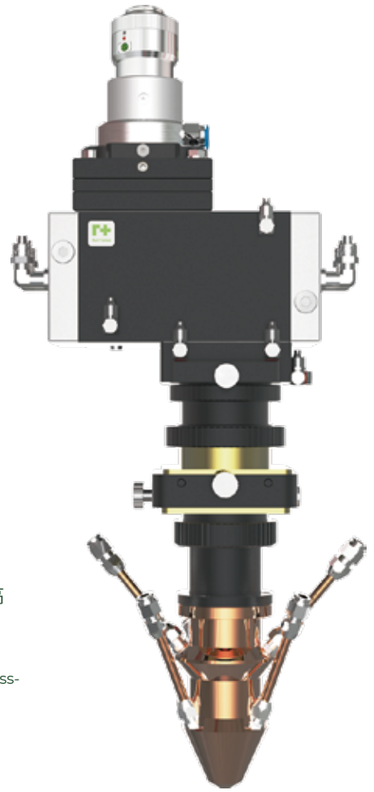
AK390-TC

高功率多功能激光加工头——熔覆

High Power Multifunctional Laser Processing Head

功率等级 Power Rating 20KW

更多信息请扫描二维码
Scan it for more details



*产品图片仅供参考

高承受功率

High Power Rating

采用直接水冷式铜镜，镜片使用寿命长，最高功率可达20KW

Adapted direct water-cooled copper lens, with a long service lif, maximum power rating can reach to 20KW.

丰富的送粉形式

Various Powder Form

配置不同末端组件可实现高功率的激光三路送粉熔覆、环形送粉熔覆等功能

Different termiral components can be used to achieve high power laser three-way powder cladding, ring feed powder, and so on.

三路熔覆

3-Way Cladding

送粉喷嘴通过优化的设计，能够实现高粉末利用率，大工作范围的加工工艺

Powder nozzles can achieve high powder utilization and large working range of process-ing technology through optimized design.

高效水冷

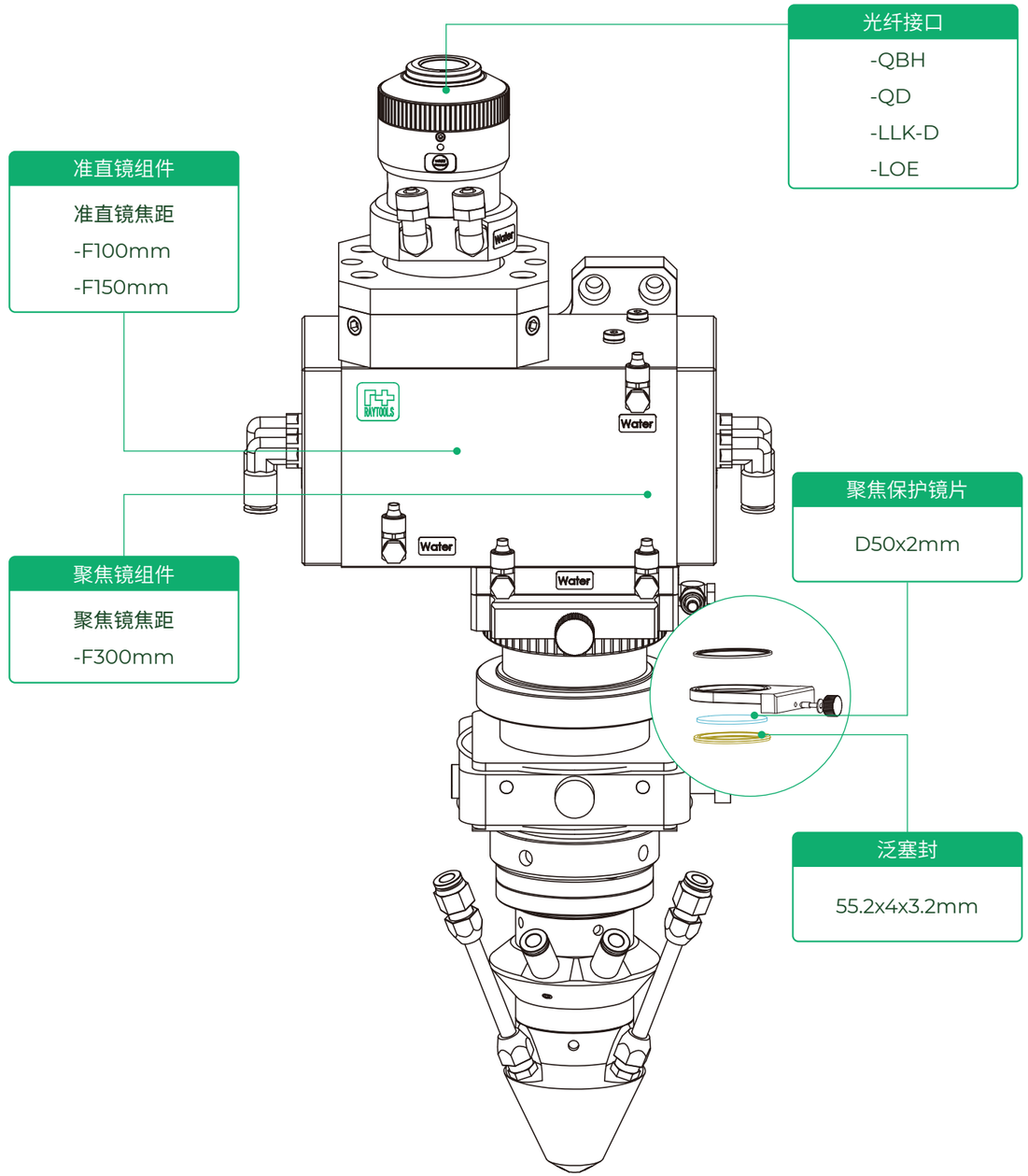
Efficient Water Cooling

双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

技术参数 Specifications

功率等级 Power Rating	20000W	通光孔径 Clear Aperture	48mm
辅助气体气压 Assist Gas Pressure	2-3bar	重量 Weight	~7.5kg



AK390-PC

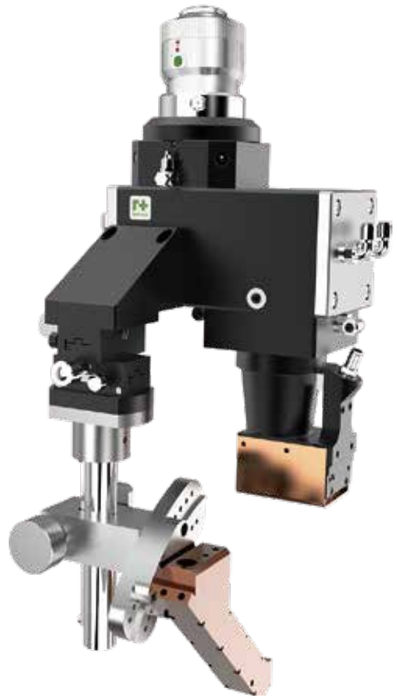
高功率多功能激光加工头——宽带熔覆

High Power Multifunctional Laser Processing Head——Broadband Cladding

更多信息请扫描二维码

Scan it for more details

功率等级 Power Rating 20KW



*产品图片仅供参考

高承受功率

High Power Rating

采用直接水冷式铜镜，镜片使用寿命长，最高功率可达20KW

Adapted direct water-cooled copper lens，with a long service life，maximum power rating can reach to 20KW.

熔覆效率高

High Deposition Efficiency

送粉喷嘴由两路气体保护，通过重力送粉，粉末利用率可达90%，实现高效率激光熔覆

The powder injection nozzle is protected by two way air protection, and the powder can be used up to 90% by gravity, which can achieve the high efficiency laser cladding.

高效水冷

Efficient Water Cooling

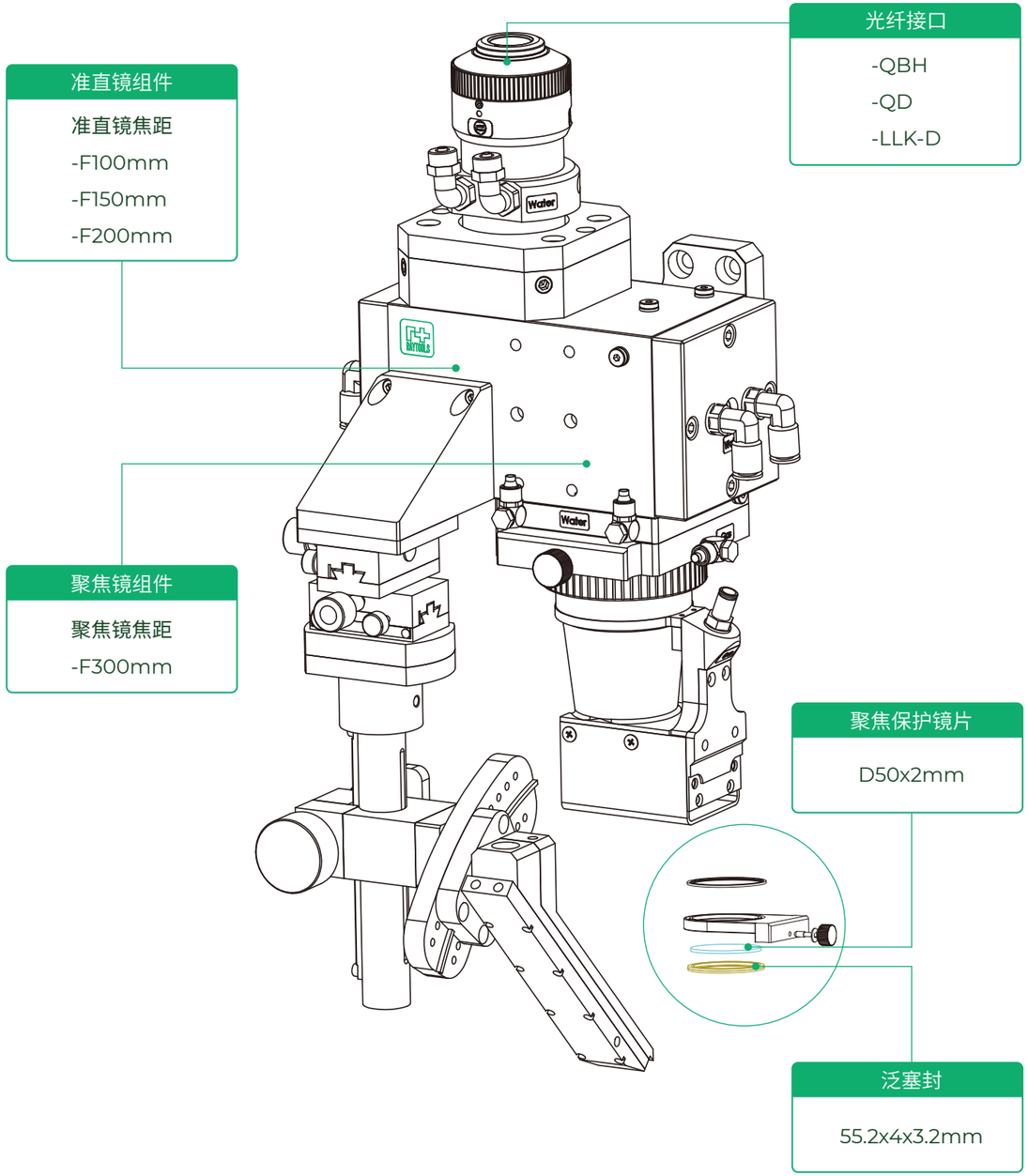
双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

技术参数 Specifications

功率等级 Power Rating	20000W
通光孔径 Clear Aperture	48mm
辅助气体气压 Assist Gas Pressure	≤5bar
角度调节范围 Angle Range	3°*10
重量 Weight	~7.0kg

积分镜光斑尺寸 KIS Size	10*2mm 15*2mm 20*2mm 20*4mm 可定制
轴微调范围 Axis Range	
- X 方向	±15mm
- Y 方向	±15mm
- Z 方向	±30mm



AK390-HT

高功率多功能激光加工头——淬火

High Power Multifunctional Laser Hardening Head——Quenching

更多信息请扫描二维码
Scan it for more details

功率等级 20KW
Power Rating



*产品图片仅供参考

高承受功率

High Power Rating

采用直接水冷式铜镜，镜片使用寿命长，最高功率可达20KW

Adapted direct water-cooled copper lens, with a long service life , maximum power rating can reach to 20KW.

光斑尺寸可调

The Spot Size Can be Adjusted

搭配特制的积分镜可产生各种不同尺寸的矩形光斑，实现不同尺寸光斑的表面淬火功能

With a special integrated mirror can produce a variety of different sizes of rectangular spots to achieve the surface hardening.

高效水冷

Efficient Water Cooling

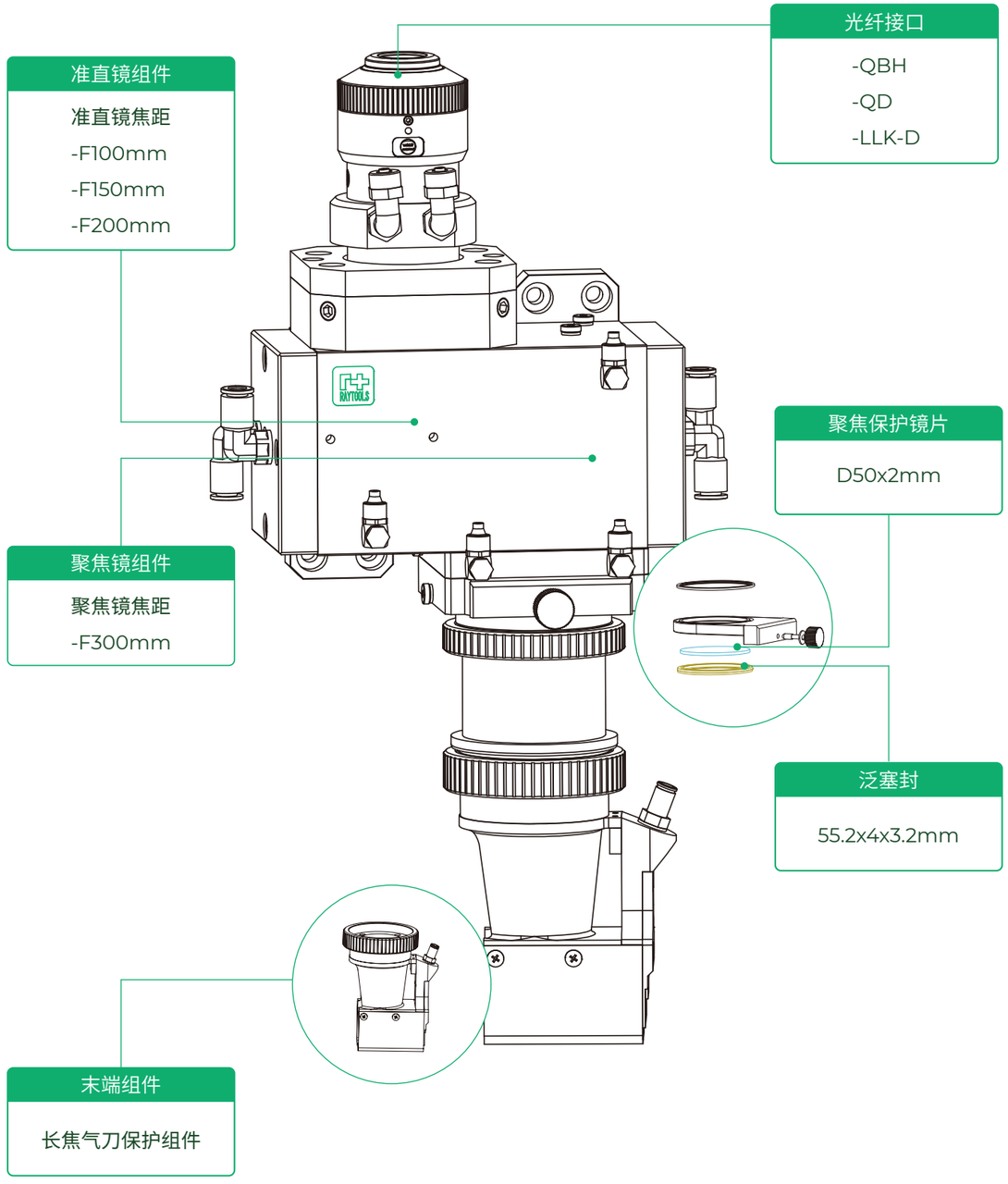
双水冷结构设计，保护镜镜座及激光头本体带有水冷接口，延长持续工作时长

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

技术参数 Specifications

功率等级 Power Rating	20000W
通光孔径 Clear Aperture	48mm
辅助气体气压 Assist Gas Pressure	≤6bar
重量 Weight	~4.0kg

积分镜光斑尺寸 KIS Size	10*2mm 15*2mm 20*2mm 20*4mm 可定制



BC104

透射式激光熔覆头

Transmission Laser Cladding Head

功率等级 Power Rating 4KW

更多信息请扫描二维码
Scan it for more details



*产品图片仅供参考

高效冷却

Efficient Cooling

所有镜片均有水路冷却且水路独立于整头外部，没有内部漏水风险

All lenses are cooled by water and the water is independent from the outside of the whole head, there is no risk of internal water leakage.

聚焦可调

Focus Adjustable

通过调节聚焦镜片位置改变加工位置光斑尺寸

Change the spot size of the processing position by adjusting the position of the focusing lens.

相机监测

Camera Monitoring

配置CCD像机进行加工过程监测

Configure CCD camera for process monitoring.

封闭式设计

Enclosed Design

全封闭防尘设计，避免光学部分受到灰尘污染

Fully enclosed dust-proof design to avoid dust contamination of the optical part.

多功能设计

Multifunctional Design

可以适配三路、四路、环形、高速熔覆等喷嘴，满足多场景应用

Can be adapted to three-way, four-way, annular, high-speed cladding and other nozzles to meet multi-scenario applications.

模块化设计

Modular Design

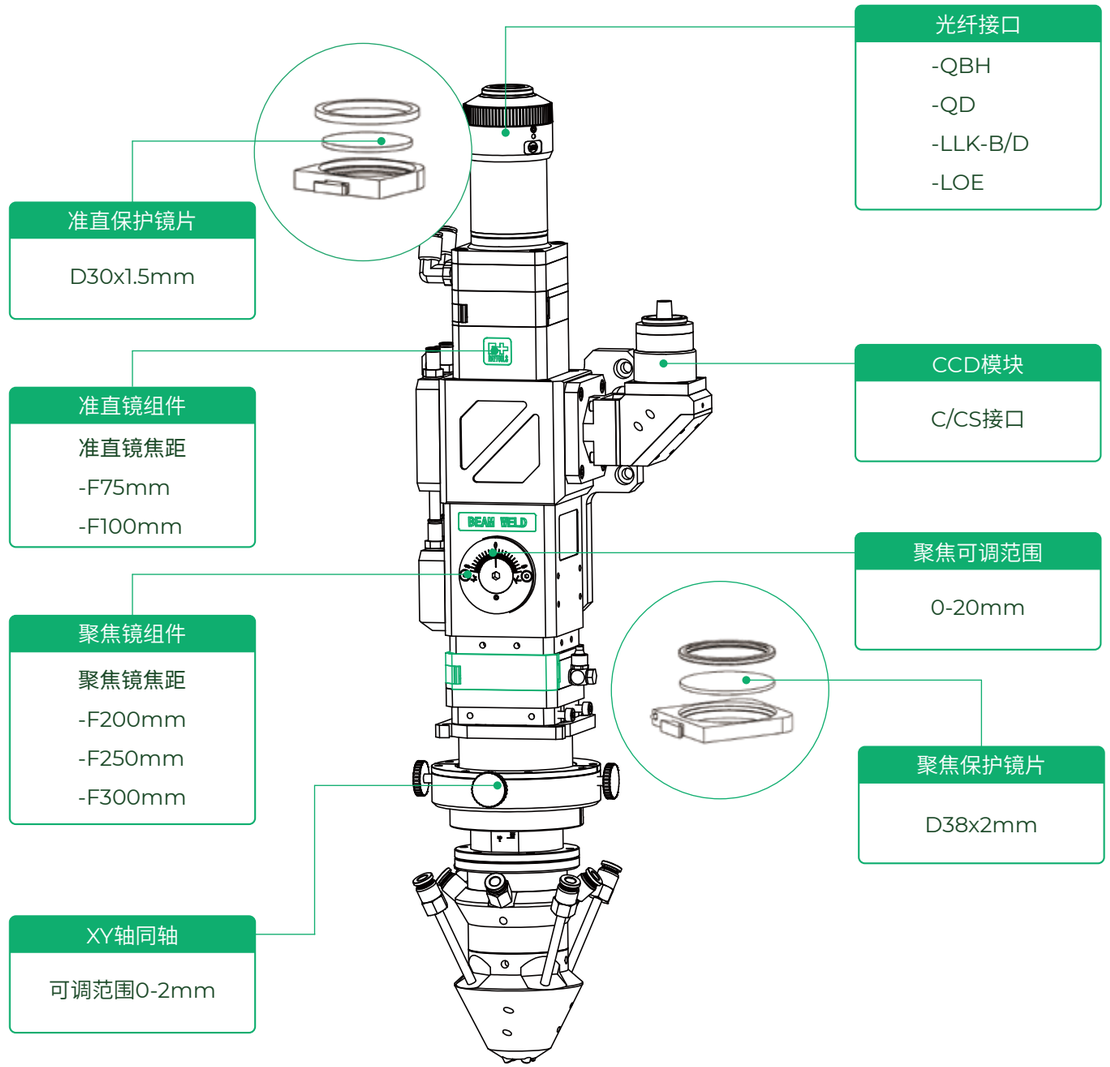
可以选配CCD成像、温度监控以及保护镜片温度监测等功能

Optional CCD imaging, temperature monitoring and protection lens temperature monitoring and other functions.

技术参数 Specifications

功率等级 Power Rating	4000W
透射波长 Transmission Wavelength	1060-1080nm
适用光源 Applicable Light Source	光纤激光器
粉末汇聚尺寸 Powder Aggregate Size	1-3mm可选
工作高度 Working Height	13-16mm

喷嘴 Nozzle	三路、四路、环形、高速可选
选配 Optional	CCD组件， 红光定位组件， 保护镜片温度监测单元， 分粉器， 闭环温控单元等
重量 Weight	~5.0kg



可选末端组件-喷嘴



三路送粉喷嘴



四路送粉喷嘴



环形送粉喷嘴

BC106

透射式高功率激光熔覆头

Transmission High Power Laser Cladding Head

功率等级 Power Rating 6KW

更多信息请扫描二维码
Scan it for more details

高承受功率

High Power Rating

搭配D50光学镜组，承受功率6KW

With D50 optical lens group, withstand power 6KW.

高效水冷

Efficient Water Cooling

所有镜片均有水路冷却且水路独立于整头外部没有内部漏水风险。

Double water-cooled structure design, the lens holder and the laser head body are equipped with water-cooled interface to extend the working duration.

相机监测

Camera Monitoring

配置CCD像机进行加工过程监测

Configure CCD camera for process monitoring.



*产品图片仅供参考

封闭式设计

Enclosed Design

全封闭防尘设计，避免光学部分受到灰尘污染

Fully enclosed dust-proof design to avoid dust contamination of the optical part.

准直调焦

Efficient Water Cooling

准直调焦，焦点可调范围相比传统聚焦调焦范围更大

Collimated focusing, the focus adjustable range is larger than the traditional focusing focusing range.

大通光孔径

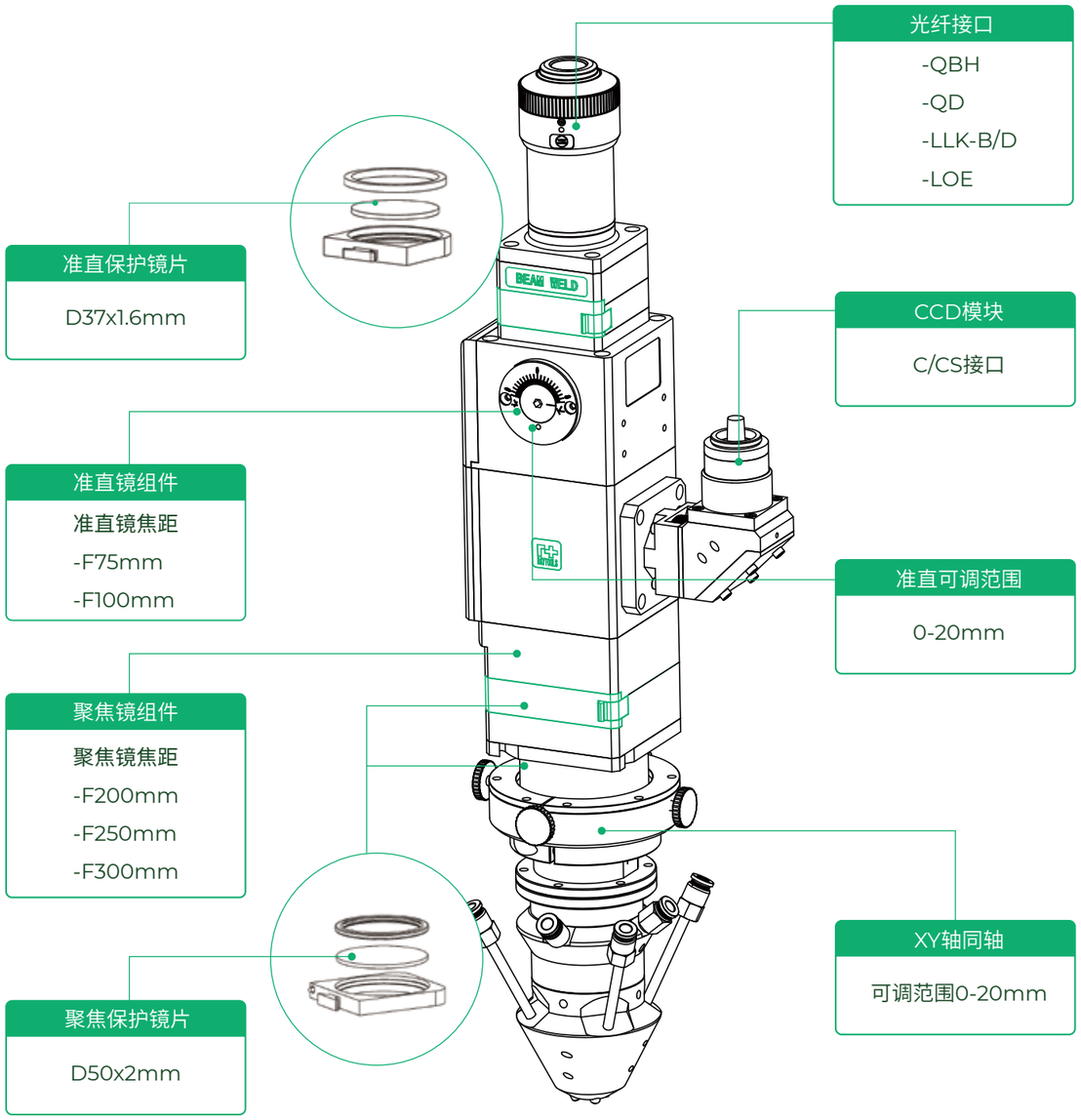
High Power Rating

整头通光孔径48mm,有效降低杂散光干扰，保障熔覆

The clear aperture of the whole head is 48mm, which can effectively reduce the interference of stray light and ensure the cladding.

技术参数 Specifications

功率等级 Power Rating	6000W	喷嘴 Nozzle	三路、四路、环形、高速可选
透射波长 Transmission Wavelength	900-1100nm	选配 Optional	CCD组件，红光定位组件，保护镜片温度监测单元，分粉器，闭环温控单元等
适用光源 Applicable Light Source	光纤激光器，半导体激光器		
粉末汇聚尺寸 Powder Aggregate Size	1-3mm可选		
工作高度 Working Height	13-16mm	重量 Weight	~7.0kg



可选末端组件-喷嘴



三路送粉喷嘴　四路送粉喷嘴　环形送粉喷嘴

VB106

多功能激光加工头

Multifunctional Laser Processing Head

功率等级 Power Rating 6KW

更多信息请扫描二维码
Scan it for more details

高效冷却

Efficient Cooling

所有镜片均有水路冷却且水路独立于整头外部，没有内部漏水风险

All lenses are cooled by water and the water is independent from the outside of the whole head, there is no risk of internal water leakage.

准直可调

Focus Adjustable

通过内六角扳手手动调节准直镜片位置可以改变焦点位置光斑尺寸，适应不同光斑加工需求

Manually adjusting the position of the collimating lens with an Allen wrench can change the spot size of the focal position to adapt to different spot processing needs.

多功能设计

Multifunctional Design

可以通过手动/电动方式实现圆形-矩形光斑的自动切换，适配对应的同轴保护模块、送粉喷嘴和横吹保护单元来满足激光焊接、熔覆和淬火多功能加工需求

The automatic switching between circular and rectangular light spots can be realized by manual/electrical mode, and the corresponding coaxial protection module, powder feeding nozzle and cross-blowing protection unit can be adapted to meet the multi-functional processing requirements of laser welding, cladding and quenching.



*产品图片仅供参考

相机监测

Camera Monitoring

配置CCD像机可以进行激光加工位置的快速定位及加工过程监测

Equipped with a CCD camera, it can quickly locate the laser processing position and monitor the processing process..

封闭式设计

Enclosed Design

全封闭防尘设计，避免光学部分受到灰尘污染

Fully enclosed dust-proof design to avoid dust contamination of the optical part.

模块化设计

Modular Design

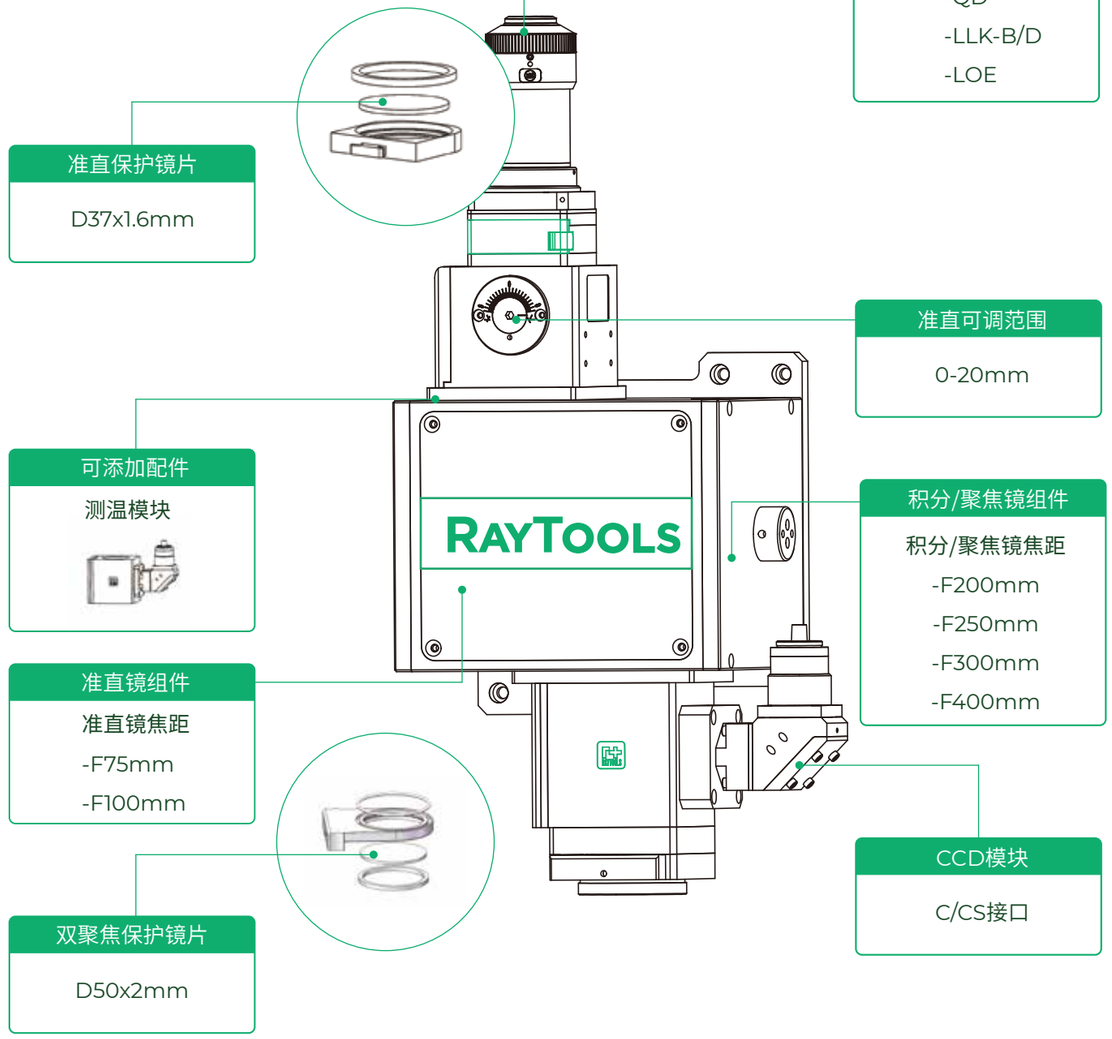
可以适配闭环温控单元、保护镜片温度监测、三路/四路/环形/宽带熔覆喷嘴等

It can be adapted to closed-loop temperature control unit, protective lens temperature monitoring, three-way/four-way/ring/broad-band cladding nozzle, etc..

技术参数 Specifications

功率等级 Power Rating	6000W
透射波长 Transmission Wavelength	900-1080nm
适用光源 Applicable Light Source	光纤激光器，半导体激光器
激光入射方向 Laser Incident Direction	0°/90°
焦点光斑形状 Focus Spot Shape	圆形、矩形自主切换
矩形光斑尺寸 Rectangular Spot Size	10*2mm，15*2mm，20*2mm，20*4mm，30*2mm等

粉末汇聚尺寸 Powder Aggregate Size	1-3mm可选
工作高度 Working Height	13-16mm
快换单元 Quick Change Unit	三路/四路/环形熔覆喷嘴，同轴保护单元，侧吹单元
选配 Optional	CCD组件，红光定位组件，保护镜片温度监测单元，分粉器，闭环温控单元等
重量 Weight	~7.0kg



可选末端组件-气刀保护组件



气刀组件　　长焦气刀保护组件

可选末端组件-喷嘴



三路送粉喷嘴　　四路送粉喷嘴　　环形送粉喷嘴

IC104

内孔激光熔覆头

Laser Cladding Head with Inner Hole

功率等级 Power Rating 4KW

更多信息请扫描二维码
Scan it for more details

高效冷却

Efficient Cooling

所有水路、光路、气路以及粉路集成在熔覆头内部，冷却性能优异

All water paths, light paths, air paths and powder paths are integrated in the cladding head with excellent cooling performance.



*产品图片仅供参考

封闭式设计

Enclosed Design

全封闭防尘设计，避免光学部分受到灰尘污染

Fully enclosed dust-proof design to avoid dust contamination of the optical part.

焦点尺寸可调

Adjustable Focus Size

通过调节准直镜片改变加工位置光斑尺寸

Adjust the collimating lens to change the spot size of machining position.

多功能设计

Multifunctional Design

可以适配侧向和同轴送粉等多种喷嘴，满足多场景应用

It can be adapted to a variety of nozzles such as lateral and coaxial powder feeding to meet multiple scenarios.

模块化设计

Modular design

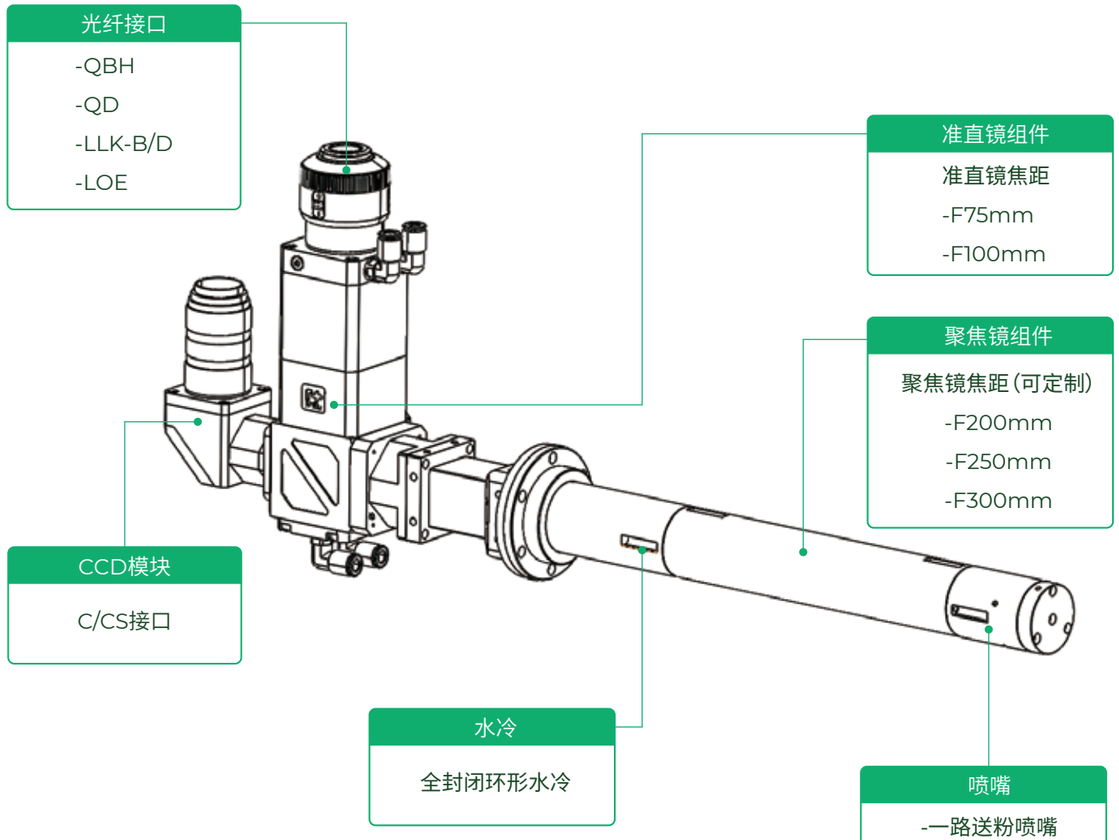
可以选配CCD成像、温度监控以及保护镜片温度监测等功能

CCD imaging, temperature monitoring and protective lens temperature monitoring can be selected.

技术参数 Specifications

功率等级 Power Rating	4000W
透射波长 Transmission Wavelength	1060-1080nm
适用光源 Applicable Light Source	光纤激光器
粉末汇聚尺寸 Powder Aggregate Size	1-3mm可选
调焦范围 Focusing Range	0-20mm

最小加工孔径 Min Machining Aperture	70mm
最大加工深度 Max Machining Depth	1.5m（单侧）
选配 Optional	CCD组件，保护镜片温度监测单元，分粉器，闭环温控单元等



焊接控制系统 Welding Control System

功能界面

主控界面

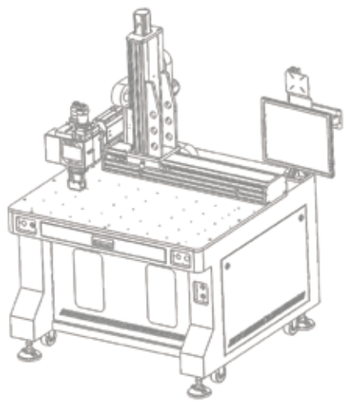


参数界面

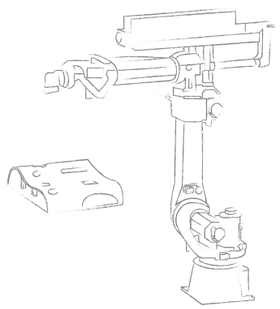


设置界面





可运用在焊接平台或机器人的功能界面展示



可用于多轴运动式焊接场景或机器人

焊接场景的典型焊接头

适配焊接头



BF320
应用场景
3C行业焊接 薄板焊接
功率等级
3KW



BF330-4F
应用场景
钣金焊接 高反材料焊接
功率等级
4KW



BF330-2C/6C
应用场景
大幅面高速焊接 新能源行业焊接
功率等级
2KW/6KW

特点

XW-100激光焊接系统	
工艺特点	支持缓升缓降调节，优化起步和结束点工艺
	支持功率曲线调节，拐角工艺处理
	独特的PSO功能，均匀的分布焊接过程的能量，焊缝的一致性较好
	支持控制多款振镜焊接头，光斑控制等
控制特点	支持EtherCAT总线伺服，支持脉冲控制伺服
	支持多轴运动，多工位控制
	支持手轮示教，界面示教，导图等加工处理
	支持在线查阅报警信息，可直接查看对应报警信息的解决办法
	直观的监控界面，便于监控信号
	支持灵活配置用户自定义输入输出

新能源焊接平台PL5050

New Energy Welding Platform



*产品图片仅供参考

技术参数 Specifications

焊接割头 Welding Head Cut	用户自定	运行速度 Running Speed	≤1000mm/s
平台加工范围 Platform Processing Range	500X500X200mm	运行加速度 Running Acceleration	< 5g (可定制)
定位精度 Positioning Accuracy	±4um	平台尺寸 Platform Size	1200X1200X1900mm
重复定位精度 Repetitive Positioning Accuracy	±2um	重量 Weight	1000kg

大理石底座+THK直线导轨保证平台稳定可靠

Marble base +THK linear guide rail ensure stable and reliable platform.

高性能DDL电机驱动技术，保证了良好的动态性能

High performance DDL motor drive technology ensures good dynamic performance.

雷尼绍光栅，全闭环控制

Renishaw grating, full closed loop control.

耐高温、全封闭式防护罩，适用于激光加工场景

High temperature resistant, fully enclosed protective cover, suitable for laser processing scenes.

美国AheadTechs激光焊接专用总线系统

American AheadTechs laser welding bus system.

最大加速度可定制，最大速度可定制

Maximum acceleration can be customized, maximum speed can be customized.

支持缓升缓降调节，优化起步和结束点工艺

Support slow rise and slow fall adjustment, optimize start and end point process.

支持曲线功率调节，拐角工艺处理

Support curve power adjustment, corner process.

独特的PSO功能，均匀的分布焊接过程能量，焊接一致性好

Unique PSO function, uniform distribution of welding process energy, good welding consistency.

支持手轮示教，界面示教，导图等加工处理

Support hand wheel teaching, interface teaching, map and other processing.

支持在线查阅报警信息，可直接查看对应报警信息的解决办法

Support online access to alarm information, you can directly view the corresponding alarm information solution.

直观的监控界面，便于控制信号

Intuitive monitoring interface, easy to control signals.

支持灵活配置用户自定义输入输出

Supports flexible configuration of user-defined input and output.

熔覆解决方案 Cladding Solution

EMP-MLP多功能激光加工单元



*产品图片仅供参考

技术参数 Specifications

可实现功能 Function	激光焊接、熔覆、淬火快速切换 Fast switching between laser welding, cladding and quenching
激光光源 Laser Light Source	光纤/半导体激光器 Fiber/Semiconductor Lasers
功率范围 Power Rating	1000-6000W （更高功率可定制）
激光波长 Laser Wavelength	900-1100nm
定位精度 Positioning Accuracy	±0.1mm
重复定位精度 Repetitive Positioning Accuracy	±0.05mm
运行速度 Running Speed	≤200mm/s
工作范围 Working Range	600*400*300mm（可定制）

送粉喷嘴配置 Powder Feeding Nozzle Configuration	三路、四路、环形、高速、宽带、内孔喷嘴可选 Three way, four way, ring, high speed, broadband, inner hole nozzle optional
淬火尺寸 Quenching Size	5*5mm、10*2mm、15*2mm、20*4mm等（可定制） Can be Customized
焦点光斑（焊接、熔覆用） Focal Spot (for welding and cladding)	可手动快速可调，调整范围可定制 Adjustable range can be customized
双轴转台 Two-axis Turntable	可配（配置对应数控单元） Configurable
惰性气体箱体 Inert Gas Chamber	可配 Configurable
安全监控单元 Safety Monitoring Unit	加工监测摄像、安全门报警、加工头防碰撞单元等可配 Processing monitoring camera, safety door alarm, processing head anti-collision unit can be equipped
过程实时监控单元 Process Real-time Monitoring unit	红外测温、温度闭环控制、高速摄像单元等可配 Infrared temperature measurement, temperature closed-loop control, high speed camera unit, etc can be equipped

适配嘉强自主开发数控系统，可满足定功能及界面定制化需求

Adaptive Empower independent development of CNC system, can meet the needs of fixed functions and interface customization.

可根据应用需求提供精密伺服或者大理石直线电机运动单元，性价比高

Precision servo or marble linear motor motion unit can be provided according to application requirements, cost-effective.

可选配AB轴运动模块，实现直线、圆形、曲线、曲面以及五轴加工运动轨迹，应用范围广泛

Optional AB axis motion module, to achieve straight line, circle, curve, surface and five-axis machining motion trajectory, a wide range of applications.

耐高温、全封闭式防护罩，适用于激光加工场景

High temperature resistant, fully enclosed protective cover, suitable for laser processing scenes.

配置嘉强自主开发多功能激光加工头，在不更换光源及光学器件下实现激光焊接、熔覆、淬火三种功率的快速切换，特别适用于前期工艺测试及科研应用需求

Equipped with multi-functional laser processing head independently developed by Jiaqiang, fast switching of laser welding, cladding and quenching power can be realized without replacing light source and optical device, especially suitable for early-stage process testing and scientific research application requirements.

可适用于铁基、镍基、铜基、铝基、钛基等多种金属材料的加工

It is suitable for the processing of iron base, nickel base, copper base, aluminum base, titanium base and other metal materials.

可选配进出工作台以及相应工装夹具，满足定制化、批量化加工

Optional in and out of the table and the corresponding fixture, to meet the customization, mass processing demand.

封闭式钣金结构，搭配视频监控、防碰撞模块、镜片高温报警及气体压力报警等，可选配APP实时性能监测单元，确保加工过程人机安全

Enclosed sheet metal structure, with video monitoring, anti-collision module, lens high temperature alarm and gas pressure alarm, etc., optional APP real-time performance monitoring unit, to ensure man-machine safety in the process of processing.

精细管材激光加工解决方案

Laser Processing Solution for Fine Pipe



*产品图片仅供参考

大理石底座+THK直线导轨保证平台稳定可靠

Marble base +THK linear guide rail ensure stable and reliable platform.

高性能DDL电机驱动技术，保证了良好的动态性能

High performance DDL motor drive technology ensures good dynamic performance.

FAGOR光栅，全闭环控制

FAGOR grating, full closed loop control.

耐高温、全封闭式防护罩，适用于激光加工场景

High temperature resistant, fully enclosed protective cover, suitable for laser processing scenes.

RayTools定制精细管材激光切割头

RayTools custom fine tube laser cutting head.

美国AheadTechs激光切管专用总线系统

American AheadTechs laser tube cutting system.

可适用于碳钢、不锈钢、铜、Ni-Ti等各类金属

Suitable for carbon steel, stainless steel, copper, Ni-Ti and other metals.

切缝±10um

±10 um kerf width.



技术参数 Specifications

功率等级 Power Rating	≤2000W	运行速度 Running Speed	≤800mm/s
圆管加工范围 Pipe Processing Range	直径1mm~10mm（可定制卡盘） (customized chuck)	运行加速度 Running Acceleration	≤0.8g
长度范围 Length Range	≤6500mm	平台尺寸 Platform Size	1360X1200X1780mm
定位精度 Positioning Accuracy	±4um	重量 Weight	1000kg
重复定位精度 Repetitive Positioning Accuracy	±2um		

送粉器

EMP-PF-2-1

Powder Feeder

功率等级 Power Rating 1KW

送粉速度可调

Adjustable Powder Feeding Speed

气体将粉末输送至加工区域，通过调节转盘转速和粉盘尺寸调节送粉速度

The gas will be transported to the processing area, by adjusting the rotary speed and the size of the powder plate to adjust the powder feeding speed.

送粉精度高

High Accuracy of Powder Feeding

本设备双筒送粉，独立可控采用高精度伺服电机，送粉精度高

This equipment double barrel powder feeding, independent and controllable high precision servo motor, high precision powder feeding.



*产品图片仅供参考

界面可定制

Customizable Interface

界面可以根据客户要求进行个性化定制

The interface can be customized according to customer requirements.

高稳定性

High Stability

具有内控和外控两种操作模式和压力报警功能，最大程度满足客户稳定性加工需求

With internal control and external control of two operating modes and pressure alarm function, the maximum degree of customer stability processing requirements.

技术参数 Specifications

功率等级 Power Rating	≤1000W	可送粉末粒度 Powder Size	20-200μ
送粉筒 Send Powder Tube	双筒送粉，PLC独立可控	送粉盘转速 Feeding Plate Speed	0-20转/分钟无级调速
外形尺寸 Dimension	600X500X1450mm（长宽高）	送粉重复精度 Send Powder Repeat Precision	<±2%
输入 Input	220VAC，50HZ	所需气源 Air Supply	氮气/氩气

焊接寻位系统 BI 100

Weld Seam Tracking

具有寻位与跟踪的功能，既满足高效定位又适合过程矫正

It has the function of locating and tracking, which not only satisfies efficient positioning, but also is suitable for process correction.

连接KUKA、FANUC、ABB、YASKAWA等机器人，具有自动标定程序嵌入式指令，操作便捷示教简单

Connecting KUKA, FANUC, ABB, YASKAWA and other robots, has automatic calibration procedures embedded instruction, easy to operate and simple to teach.



*产品图片仅供参考

有效排除焊接强光及烟尘干扰等，使产品能够适应恶劣的视觉环境

Effective elimination of welding strong light and smoke interference , enable the product to adapt to harsh visual environment.

可与BW产线焊接头完美配合

Perfect match with BW line welding head

技术参数 Specifications

有效视距 Sight Distance	100~200mm	检测周期 Detection Cycle	10ms
检测范围 Detection Range	±17mm	使用环境 Temperature	-10°C~40°C
焊缝宽度 Weld Width	0.5~15mm	外形尺寸 Size	94×41×100mm
检测精度 Accuracy	0.05mm	重量 Weight	0.65Kg

测温模块 BI 200

Laser Pyrometer

激光淬火、熔覆及表面处理等闭环温度控制，
可以精确地保持边缘、突出或孔的硬化温度

Closed-loop temperature control, such as laser quenching, cladding and surface treatment, can accurately maintain the hardening temperature of edges, protrusions or holes.

测试温度范围为700°C～2500°C

The test temperature range is from 700°C to 2500°C.



*产品图片仅供参考

闭环控制，最高可达10kHz

Closed-loop control, up to 10kHz.

具有用于过程设置、可视化和
数据存储的强大软件包

Powerful software packages for process setup, visualization, and data storage.

具有24V数字和模拟0～10V
I/O的工业I/O终端用于自动化
线路的集成和激光器的连接

Industrial I/O terminals with 24V digital and analog 0-10V I/O for automation line integration and laser connection.

技术参数 Specifications

温度范围 Temperature Range	700°C-2500°
光谱范围 Spectral Range	1.45 – 1.8μm
检测精度 Accuracy	＜1500°C，±2°C
最大采样频率 Maximum Frequency	0.1ms (10kHz)
响应时间 Response Time	< 0.2ms
重复精度 Repetitive Accuracy	±1°C

环境温度 Ambient Temperature - 控制器 Controller - 光学镜头 Optical Lens	MAX 40°C MAX 60°C
格拉斯纤维长度 Glass Fiber	5m，10m，20m，40m，定制
外形尺寸 Size	94×41×100mm
重量 Weight	~5Kg

红光指示器 Aiming Laser



型号 Model	光源 Light
120141710A	红光 Red

CCD成像辅助 CCD Imaging Assistant

型号 Model	规格 Specification
3570010127	VGA线10m（高柔）
3530020025	8英寸显示屏
110253ACF0011	CCD相机

准直组件 Collimation Assembly



型号 Model	光纤接口 Interface	入射角度 Angle	准直镜焦距 Collimator Focal Length	准直镜直径 Dia of lens	水冷 Water-cooling
120CM30045	QBH	0°	75	D28	有 Yes
120CM30034	QBH	0°	100	D30	-
120CM30052	QD	0°	100	D30	有 Yes
120CM30039	QBH	0°	100	D30	有 Yes
120CM30073	QBH	0°	125	D30	有 Yes
120CM30043	QBH	0°	125	D30	有 Yes
120CM30042	QBH	90°	125	D30	有 Yes
120610200C	QBH	0°	135	D38.1	有 Yes
120CM30072	QBH	0°	150	D28	有 Yes
120CM30062	QBH	0°	150	D30	有 Yes
120CM30044	QBH	0°	180	D30	有 Yes

更多配置可拨打咨询热线400-670-1510

Please call the hotline 400-670-1510 for more configuration.