

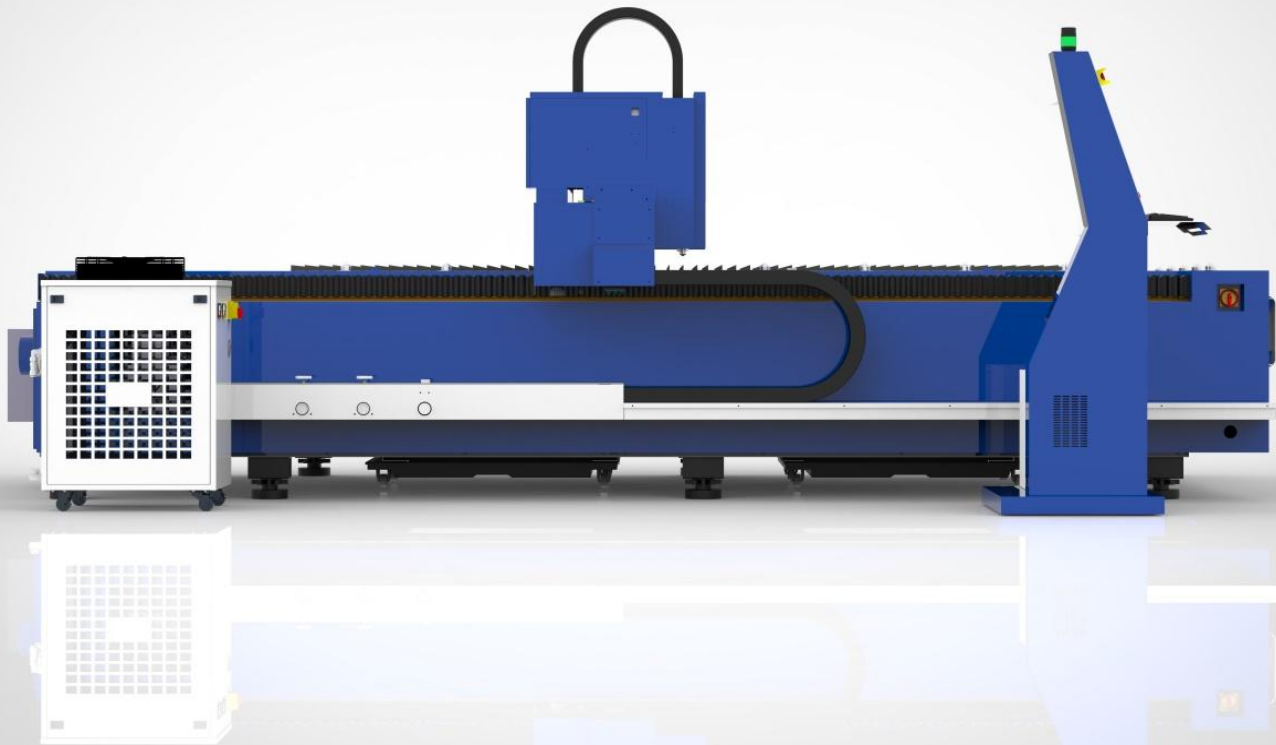
1. EV-30---OPTIMUM OF ENGNGRY-SAVING AND HIGH-EFFICIENCY



EV-30 is a perfect standard fiber laser cutting machine, at the same time, it's also the industry explosion product. It is a necessary machine for metal plate processing, with stable performance and easy operation, which can improve the overall processing productivity and product accuracy. In addition, it adopts a high-end configuration, details show the advantages of the product, creating low pollution and low noise production environment for you.

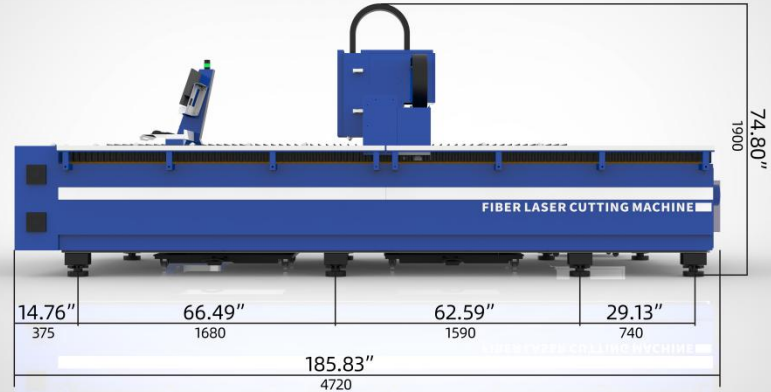
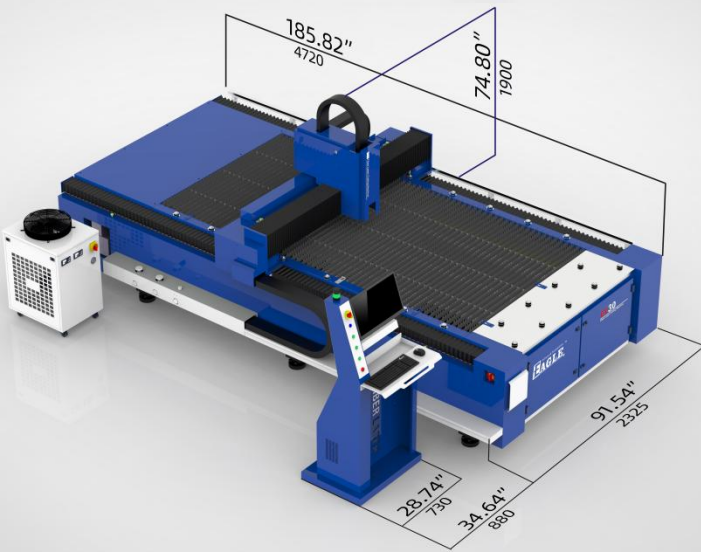
Specific Advantages

- (1)Sustain improving and flexible fiber laser cutting machine with mature technology.
- (2)Keep classic model, the best combination of high quality and low cost.
- (3)High photoelectric conversion efficiency, maintenance-free optical path, fully upgraded human-machine interface cutting parameter library.
- (4)High-speed cutting of thin plate, intelligent operation interface can provide the best application solution.



2. EQUIPMENT CONFIGURATION LIST

NAME	QUANTITY	SPECIFICATION	PLACE OF ORIGIN
Laser	1	Max(1500w)	China
Cutting Head	1	Raytools	Switzerland
Reducer (Including Gears)	3	Motovario	France
Fast Speed Servo Motor	4	FUJI	Japan
High Precision Linear Guide Rail (Tool)	3	Hassfall	Taiwan
Precision Ball Screw (Z-Axis)	1	HIWIN/TBI	Taiwan
Precise Rack	3	Hassfull	Taiwan
Numerical Control System	1	Cyprut	China
Electric Control	1	Schneider	France
Gas Circuit Control	1	SMC	Japan
Water Chilling Unit	1	Tofly	China



3. TECHNICAL PARAMETERS AND SPECIFICATION DESCRIPTION

Performance Index	Parameter
Laser power	1500W/2000W/3000W/4000W
Working area	3000×1500 mm (118.1×59.1inch)
Machine dimension	4500×2400×1700 mm (177.2×94.5×66.9inch)
Positioning accuracy	±0.03 mm/m (±0.00036 inch/feet)
Repeatability	±0.03 mm/m (±0.00036 inch/feet)
Max. speed	80000 mm/min (3149 inch/min)
Max. accelerated speed	1.0 G
Control system	Cypcut
Max. load	1200 kg (2645.5 lbs)
Number of phases	3
Working voltage	380V/50Hz
Machine weight	3500 kg (7716 lbs)

4. MECHANICAL ADVANTAGES

MOTOVARIO Speed Reducer



Eagle laser equipment choose MOTOVARIO reducer, a globally famous company, as our cooperater for a long term. Integrated welding of reducer and gear would guarantee high precision of the body structure.

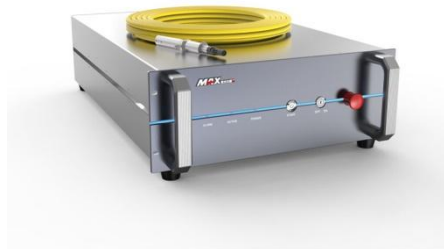
We use the linear guide rail reducer, the gears of the MOTO-VARIO reducer are made of special steel with advanced processing technology and carburized and hardened public welfare, which makes its

strength and life far higher than other reducers. At the same time, his compact size, most of the shell using high-strength alloy aluminum, reducing the weight of the machine.



Fiber Laser Source

Max Laser is a global leader of the high power laser source, it has ultra-high beam quality, output power and photoelectric conversion rate, lower maintenance cost, and consumption. It also has a series of outstanding characters: high reliability, compact structure, durability, and mobility.



MFSC 1500W single-mode continuous fiber laser with modular design, highly integrated system, to make maintenance-free and highly reliable come true. The laser power is continuously adjustable, with high beam quality and high laser stability, which is the ideal laser source for laser fine cutting, precision welding and other applications. With fiber with QBH head output, it can be integrated with laser processing head, oscillator and robot, machine tool, etc. It is widely used in 3C, hardware, medical, automotive, aviation and other fields.

Models	MFSC-1500W
Nominal Power	1500W
Mode of Operation	CW/Modulated
Polarization	Random
Power Tunability	10 to 100%

Wavelength	1080 ± 10 nm
Power Stability	±1 %
Laser Beam Quality, BPP	≤1.5 mm x mrad (50µm QBH)
Modulation Frequency	≤20 kHz
Preview Red Light Power	150 µW
Interface	QBH (LOC)
Length	15m standard, other lengths optional
Diameter	50 µm
Bending Radius	7.87 inch (200 mm)
Supply Voltage	220VAC (-15% to +10%) Single-phase
Operating Temperature	+10 to +40°C (+50 to 104°F)
Storage Temperature	-10 to +60°C (+50 to 140°F)
Humidity	10 to 85%
Cooling Method	Water Cooling
Cooling Medium	Distilled water/ Glycol Antifreeze
Dimension	482.6×800×193mm (19.00×31.49×7.60inch)
Weight	57(±3) kg

Cutting head



The BM111 series is an auto-focus fiber optic cutting head from RAYTOOLS AG, Switzerland. It has a built-in motor drive unit that drives the focusing mirror to automatically change position within 22mm through a linear mechanism, and users can program continuous focus to complete rapid piercing of thick plates and automatic cutting of plates of different thicknesses and materials. The product is equipped with D30's composite lens set to integrate the beam, optimized optics and water cooling design makes the laser head can work continuously and stably for a long time at high power.

BM111 FC	
Power level	3300W
Range	+10~12mm(+0.39~0.47inch)
Acceleration	≤10m/s ² (≤22.37 mph/s)

Speed	≤10m/min (≤393.70inch/min)
Accuracy	≤50 μ m
Focal length of collimating mirror	100mm (3.94")
Focusing mirror focal length	125mm, 155mm, 200mm
Nozzle hole specifications	single-layer, double-layer, non-standard
Fiber interface	QBH, QD
Nozzle aperture	0.8mm, 1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm, 4.5mm, 5.0mm
Light through aperture	28mm
Collimation protection lens	φ 24.9mm*1.5mm
Focusing protection lens	φ 27.9mm*4.1mm
Auxiliary gas pressure	≤30bar
Weight	~5.7kg

Water Chiller Included

The "dual-temperature" water cooler provides stable and real-time water temperature control for the laser while providing a water temperature similar to the ambient temperature for lens cooling, solving the problem of lens damage caused by condensation when using low-temperature water cooling, making it the best choice for laser equipment cooling.



- Adopt high-quality stainless steel cold water circulation pump, with high flow, high head, low noise and long life; plastic water tank, stainless steel piping and valve parts are free of rust.

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- The control system adopts a liquid crystal controller, which displays the cooling water temperature in real-time, CPU fully automatic control, which can realize man-machine dialogue, simple and intuitive operation.

Water temperature control accuracy ±1°C; with automatic fault diagnosis function, the fault point is directly displayed on the screen, prompting the user to deal with it quickly.

- Provides RS485 communication interface, which can realize the communication function with the host.
- Provides multiple protection functions, passive alarm terminal and a remote control terminal, so that it would be easy to realize the centralized control and monitoring of CNC.

Model	TFLW-3000
Power supply	220, 1~,50
The rated power	5KW
rated current	24.4A
Water temperature range	Main circuit:15-35°C (±1°C)

	External light path: 20-40°C (±1°C)
Environmental temperature	5-45°C (5-41°F)
Noise	≤69 dB (A)
Protection level	IP44
Shape size	705×850×1385mm (27.75×33.465×54.53inch)
Water tank volume	60L
Weight	205kg (451.95lbs)

Fuji Servo Motor

Compared with stepper motor, servo motor realizes closed-loop control of position, speed and torque; it overcomes the problem of stepper motor losing step; it has good high-speed performance, strong overload resistance, and can withstand three times the rated torque of the load, which is especially suitable for occasions with instantaneous load fluctuations and requirements for fast starting. At the same time, it runs smoothly at low speed and does not produce the stepping operation phenomenon similar to that of stepper motors at low speed. Suitable for occasions with high-speed response requirements; the dynamic corresponding time of motor acceleration and deceleration is short, generally within a few tens of milliseconds. This also makes the heat generation and noise significantly reduced.



Excellent Software Control System

Cyprut system could independently control the shutter or set an energy-following mode. Control the power generated by the laser generator by changing the simulation and PWM to adapt different cutting material, thickness, speed and auxiliary gas, which could evenly cut the material without scorch. What's more, Cyprut system supports the function of continue cutting after the interruption from the origin position, it could satisfy the diversified requirements of laser cutting.

Particular air pressure calibration function: The air pressure calibration function with simple and convenient operation platform could ensure the consistency of cutting parameters.

Multistage punching: With coordination of the gas circuit system, Cyprut may control the gas category, pressure switching and punching time and change the mean laser power by changing the laser pulse width and frequency at the same time, so as to obtain very good punching effects and connection of punching and cutting.

Adaptive edge search: For finding the frame and angle of inclination of the sheet material.

Leapfrog function: Leapfrog function could adjust the jump height and choose the movement mode for the next graphic.

Automatic corner acceleration and deceleration: The automatic corner acceleration and deceleration function combines with the laser energy follow-up mode, Cyprut control system could effectively prevent the phenomenon of corner over cutting and scorch.

Fly-cutting: Scanning and cutting the metal sheet along with the straight and circular path would

maximize the utilization of material, down the waste rate and improve the production rate of return.

5. MACHINING CAPACITY-1500W

Materials	Maximum Thickness	Suggested Cutting Thickness
Mild Steel	0.63" (16mm)	0.55" (14mm)
Stainless Steel	0.31"(8mm)	0.24" (6mm)
Aluminum	0.16" (4mm)	0.16" (4mm)
Brass	0.16" (4mm)	0.12" (3mm)
Copper	0.08" (2mm)	0.06" (1.5mm)

The reliable motion system provides excellent accuracy even when cutting head travels under rapid speed. The maximum travel speed of EV-30 is 80m per minute. Under this speed, EV-30 can still provide position accuracy as low as 0.03mm; and repeat accuracy is within ±0.03mm.

6. APPLICATION AND SAMPLE



7. DOCUMENTATION AND TOOLS INCLUDED

Spare Parts and Special Tools	
Protective mirror	3
Nozzle	4
Dust-free swab (cloth leftover)	1
Socket head wrench (9 pieces)	1
Cross s crew driver	1
Slot type screw driver	1
Tool kit	1
Fiber protective goggle	1

List of Accompanying Documents	
Quality certificate of tool	1
Packing list of tool	1
Spare parts	1
Nesting accessories	1

8. WARRANTY

Mechanical, electronic components and Fiber Laser Source:

2 year against manufacturing defects. Parts and components damaged due to improper usage and operation of the equipment are not covered under warranty. The complete warranty shall be available once the customer has accepted and received the training program and the purchase agreements are signed by the customer.

6 months against manufacturing defects. Laser optical components, like focus lens are considered consumables and are therefore not covered during the warranty period.

In order to ensure the customer experience, the best performance of the equipment and the complete warranty policy of our company, we urge following the instructions on the Safety Notice in the Operation Manual and following the instructions of our technician on the installation of the laser machine. Failure to do so may render the warranty null and void.

9. INSTALLATION AND TRAINING

Technical support is offered via telephone, e-mail and other means. Instruction of installation will be written (emailed). A video with the installation of the Laser Machine is available. Until 8 hours of training (2 days of 4 hours) in the Installation Maintenance & Operation of the Laser Machine, as well as software included is available Free of charge in our premises in Los Angeles, California.