

LASER CUTTING MACHINE

ULF



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CONTACT US

COMPANY PROFILE

Established in 2002, ADH Company is situated in Ma'anshan City, Anhui Province, just 30 kilometers from Nanjing Lukou Airport. Our expansive 2,000,000 square meter facility specializes in manufacturing press brakes, hydraulic shearing machines, laser cutting machines (including automatic production units), CNC turret punches, intelligent flexible bending centers, and sheet metal automation equipment. As a leading high-tech manufacturer prioritizing R&D and innovation, we hold numerous patents and industry certifications.

2002

Founded

6000 +

Annual Production

120 +

R&D Personnel

100 +

Exported Countries



Mission

We are committed to research and development, improving product and service quality, in order to establish a globally renowned sheet metal manufacturing machinery center.



Vision

Our goal is to become a highly respected sheet metal support service provider, earning the trust of customers and the pride of employees.



Values

Innovation, Lean Manufacturing, Integrity, Win-Win.

LASER CUTTING MACHINE

Single Table

ULF Series



- Small focus spot ensures accuracy
- Three times CO₂ laser output
- Frames resist 20 years' deformation
- 30% conversion efficiency reduces costs
- Auto-focus simplifies operation
- Handles diverse metal materials

PRODUCT DETAILS



Bevel

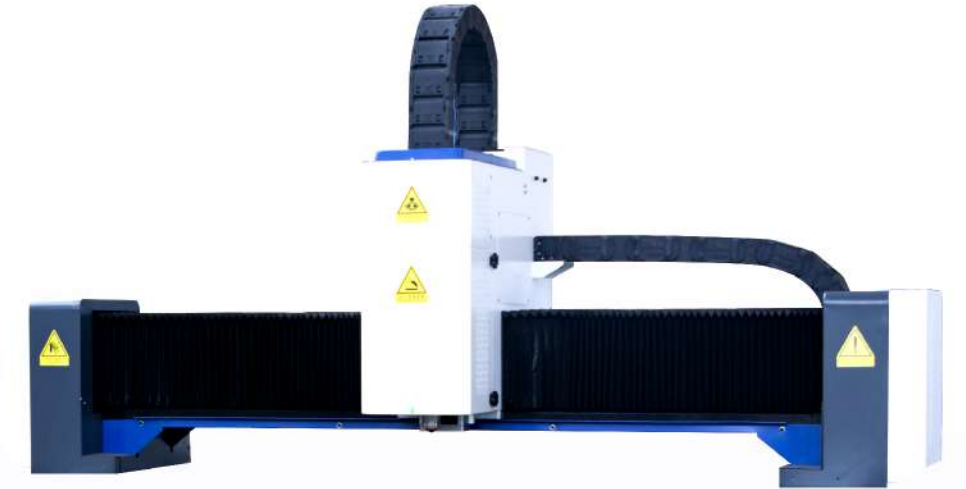
- True solidity originates from unseen details. Before welding, we meticulously bevel every joint of the machine tool bed. This ensures 100% full penetration of the weld seam, making the entire frame structure a cohesive whole with greatly enhanced strength.

Frame

- High-strength welded frame with internal stiffeners undergoes high-temperature annealing, fast shot blasting, and stress relief treatment to ensure long-term durability and deformation resistance, even after 20 years of continuous use.

Crossbeam

- Lightweight and impact-resistant aluminum crossbeam with aerospace-grade materials ensures enhanced dynamic response speed, stable high-speed operation, and precise cuts, thanks to integrated design and CNC high-temperature annealing treatment.



Control System

- The control system supports power-based speed adjustment, offering flexibility and precision in cutting processes for tailored results.
- Cypcut cutting software provides easy installation and debugging, supplemented by a robust cutting process database for enhanced performance.





Cutting Head

- Auto-focusing laser cutting technology adjusts focus to suit material thickness, boosting cutting speed and quality while ensuring stable operations through patented anti-collision protection and plate-warping prevention mechanisms.



Servo Motor

- Delta/innovance deliver unmatched speed, precision, and reliability for consistent high-quality output in demanding production environments.

Electrical components

- Premium Schneider Electric components ensure reliable operation with efficient heat dissipation, maximizing equipment longevity.



Laser Source

- The laser enables direct control of all functions and supports synchronized laser source control, enhancing cutting capabilities and efficiency while boasting outstanding maintenance cost savings of 15% to 20%.
- With a constant Beam Parameter Product (BPP) across its power range and electro-optic conversion efficiency over 30%, the laser source ensures precision and compact design for effortless installation.

Automatic Lubrication

- The system dispenses lubricating oil at scheduled intervals, optimizing machine efficiency and reducing downtime.
- Timed lubrication ensures smooth operation, maintaining accurate and reliable equipment performance.



Gear, Rack, Linear Guide

- Precision-ground YYC gear/rack and Hiwin linear guides ensure high-speed, vibration-free transmission, delivering long-term operational accuracy and stability in demanding manufacturing environments.





Water Chiller

- Safety features include over-temperature alarms, flow safeguards, and water level monitoring for user safety.
- Incorporates cutting-edge safety protocols such as over-temperature alarms and flow safeguards to ensure secure and dependable operation.



Air Cooler

- Effectively reduces internal cabinet temperature, preventing electrical component overheating and ensuring stable, continuous operation. Prolongs equipment lifespan while maintaining peak performance under demanding production conditions.

Gearbox

- The machine is equipped with DESBOER gearboxes from Japan, known for high torque, precision, and durability, ensuring reliable operation and efficiency.



OPTIONAL



Precitec Cutting Head Germany

- Achieve reliable, stable cutting with the German Precitec PROCUTTER. Electric focus adjustment streamlines setup and perforation, boosting automation and ease of use.
- Boost cutting efficiency with Precitec's compact design. It enables fast acceleration and high cutting speeds for diverse applications, maximizing throughput.



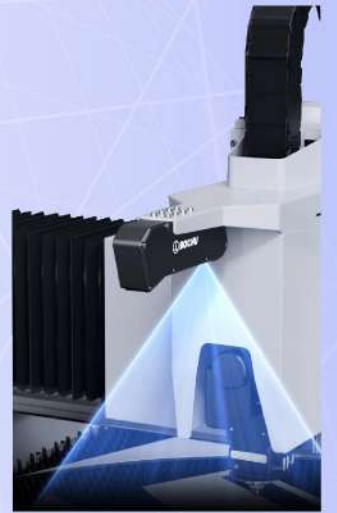
IPG Laser

- IPG Laser delivers over 30% electro-optic conversion efficiency and maintains constant beam quality (small spot size) across its full power range, ensuring precise cutting even on high-reflective materials like aluminum and copper.
- Operates reliably in temperatures from 10-40°C with optional air conditioning, combining energy efficiency with stable performance for diverse industrial environments.



Gantry Beam

- Die-cast integrated gantry beam made from aerospace-grade aluminum alloy, featuring CNC high temperature annealing for enhanced deformation resistance and lightweight durability, ensuring high-speed stability and precision.
- Finite element-optimized crossbeam design combines high rigidity with minimal deformation, delivering superior acceleration (1.2g) and rapid positioning (120m/min) for consistent cutting accuracy.



BOCHU Sky Eye System

- Increase efficiency and reduce costs, achieve high productivity. Scrap nesting utilization rate increased by 175%. Batch scanning and one-click automatic nesting, production capacity increased by 200%.
- Widely applicable, easy to use Supports irregular remnant materials, multiple parts can be nested simultaneously.

Specifications

ULF Series

SPECIFICATIONS	
Model	ULF
Laser power	1.5KW-60K
Cutting range	3*1.5(m)/4*1.5(m)/6*1.5(m)/4*2(m)/6*2(m)/8*2.6(m)/13*2.6(m)/13*3.2(m)/26*2.6(m)/26*3.2(m)
Maximum moving speed	120m/min
Maximum acceleration	1.2g
Positioning accuracy	±0.05mm
Repeated positioning accuracy	±0.02mm
Operating voltage	380V/50Hz
Cooling method	water-cooled

CONFIGURATION	
Component Function Names	Brand/Manufacturer
Bed	ADH
Control system	Cpycut
Laser source	Raycus/Max/IPG
Cutting head	Raytools/BOCI
Servo motor	Inovance/delta
Gearbox	DESBOER
Gear, rack	YYC
Linear guide	Hiwin
Water chiller	Hanli
Electrical components	Schneider
Automatic lubrication device	ADH

Comparison Table Of Cutting Parameters														
Material	Thickness (mm)	Cutting Speed m/min												
		1kW	1.5kW	2kW	3kW	4kW	6kW	8kW	10kW	12kW	20kW	30kW	40kW(100u)	40kW(150u)
Carbon Steel (Oxygen)	1	8.0-10	15-26	24-30	30-40	33-43	35-44	35-42	35-42	50-60	/	/	/	/
	2	4.0-6.5	4.5-6.5	4.7-6.5	4.8-7.5	15-25	20-28	6.2-10	7.0-12	35-45	/	/	/	/
	3	2.4-3.0	2.6-4.0	3.0-4.8	3.3-5.0	7.0-12	13-17	4.0-7.0	4.2-7.5	30-35	/	/	/	/
	4	2.0-2.4	2.5-3.0	2.8-3.5	3.0-4.2	3.0-4.0	3.0-4.5	3.5-5.5	3.5-5.5	22-26	/	/	/	/
	5	1.5-2.0	2.0-2.5	2.2-3.0	2.6-3.5	2.7-3.6	3.0-4.2	3.3-4.5	3.3-4.5	15-18	23-28	23-30	23-30	23-30
	6	1.4-1.6	1.6-2.2	1.8-2.6	2.3-3.2	2.5-3.4	2.5-3.5	3.0-4.2	3.0-4.2	10-13	18-20	18-23	18-23	18-23
	8	0.8-1.2	1.0-1.4	1.2-1.8	1.8-2.6	2.0-3.0	2.2-3.2	2.5-3.5	2.5-3.5	8-10	14-16	14-18	14-18	14-18
	10	0.6-1.0	0.8-1.1	1.1-1.3	1.2-2.0	1.5-2.4	1.8-2.5	2.2-2.7	2.2-2.7	6-7	9-12	10-14	2-2.3	10-14
	12	0.5-0.8	0.7-1.0	0.9-1.2	1.0-1.6	1.2-1.8	1.2-2.0	1.2-2.1	1.2-2.1	3-5	3.2-10	9-12	1.8-2	9-12
	14	/	0.5-0.7	0.7-0.8	0.9-1.4	0.9-1.2	1.2-1.8	1.7-1.9	1.7-1.9	3-3.2	3-8	9-10	1.6-1.8	9.5-10.5
	16	/	/	0.6-0.7	0.7-1.0	0.8-1.0	0.8-1.3	0.9-1.7	0.9-1.7	2.8-3	3-6	7-9	1.6-1.8	7.5-9
	18	/	/	0.4-0.6	0.6-0.8	0.6-0.9	0.6-0.9	0.65-0.9	0.65-0.9	/	3.2-4	5-7	7-8	6.5-8
	20	/	/	/	0.5-0.8	0.5-0.8	0.5-0.8	0.6-0.9	0.6-0.9	1.2-2.3	2.1-3.2	4-5	1.5-1.6	4.5-6
	22	/	/	/	/	0.4-0.8	0.4-0.8	0.5-0.8	0.5-0.8	0.9-1.2	1.2-1.5	1.4-1.5	1.4-1.5	1.4-1.5
	25	/	/	/	/	/	0.3-0.55	0.3-0.7	0.3-0.7	0.6-1.3	1.2-2.1	3-3.5	1.2-1.4	3.5-4.5
	30	/	/	/	/	/	/	/	/	0.4-1	1.2-1.9	1.2-1.3	1.2-1.3	2.5-3.5
	35	/	/	/	/	/	/	/	/	/	1.4-1.6	1.4-1.6	2-3	2-3
	40	/	/	/	/	/	/	/	/	/	0.6-1.2	0.6-0.9	0.9-1.1	0.9-1.1
	40 (Non-Q235)	/	/	/	/	/	/	/	/	/	0.3-0.6	0.3-0.6	0.3-0.6	0.3-0.6
	45	/	/	/	/	/	/	/	/	/	0.8-0.9	1-1.2	/	/
	50	/	/	/	/	/	/	/	/	/	0.2-0.3	0.6-0.8	0.7-0.9	0.7-0.9
	60	/	/	/	/	/	/	/	/	/	0.2-0.25	0.2-0.25	0.6-0.8	0.6-0.8

Comparison Table Of Cutting Parameters														
Material	Thickness (mm)	Cutting Speed m/min												
		1kW	1.5kW	2kW	3kW	4kW	6kW	8kW	10kW	12kW	20kW	30kW	40kW(100u)	40kW(150u)
Stainless Steel (Nitrogen)	1	15-25	20-27	24-30	30-35	32-45	42-52	50-66	60-75	50-60	/	50-60	/	/
	2	5-7.5	8.0-12	9.0-15	13-21	16-28	20-33	30-42	40-55	40-45	/	50-60	/	/
	3	1.8-2.5	3.0-5.0	4.0-6.5	6.0-10	7.0-15	15-22	20-30	27-38	30-35	40-45	40-50	/	/
	4	1.2-1.3	1.5-2.4	3.0-4.5	4.0-6.0	5.0-8.0	10.0-15.0	14-21	18-25	24-30	30-35	30-35	/	/
	5	0.6-0.7	0.7-1.3	1.8-2.5	3.0-5.0	3.5-5.0	8.0-12	12-17	15-22	15-19	22-24	25-30	25-30	25-30
	6	/	0.7-1.0	1.2-2.0	2.0-4.0	2.5-4.5	4.8-8.0	8.0-14.0	12-15	13-17	18-22	22-25	22-25	22-25
	8	/	/	0.7-1.0	1.5-2.0	1.2-2.0	3.0-4.0	6.0-8.0	8.0-12.0	8-11	13-16	18-22	20-23	20-23
	10	/	/	/	0.6-0.8	0.8-1.2	1.6-2.5	3.0-5.0	6.0-8.0	6.5-8	10-12	14-18	16-21	16-21
	12	/	/	/	0.4-0.6	0.5-0.8	0.8-1.5	1.8-3.0	3.0-5.0	5-6	8-10	12-14	12-14	12-14
	14	/	/	/	/	0.4-0.6	0.6-0.8	1.2-1.8	1.8-3.0	3-4	6-9	8-10	10-12	10-12
	16	/	/	/	/	/	/	/	/	2-3	5-7	7.5-8.5	9-11	9-11
	18	/	/	/	/	/	/	/	/	1.3-2	3.2-4.5	6-7	8-9.5	8-9.5
	20	/	/	/	/	/	0.3-0.55	0.6-0.7	1.2-1.8	1.2-1.6	3-4.5	5-6	7-8	7-8
	25	/	/	/	/	/	0.2-0.4	0.5-0.6	0.6-0.7	0.7-1	1.5-2.5	2-3	4.5-5.5	4.5-5.5
	30	/	/	/	/	/	/	/	/	/	1-1.6	1.5-2	3-4	3-4
	40	/	/	/	/	/	/	/	/	/	0.5-0.8	0.6-0.8	1.5-2	1.5-2
	50	/	/	/	/	/	/	/	/	/	0.2-0.3	0.4-0.6	0.5-0.8	0.5-0.8
	60	/	/	/	/	/	/	/	/	/	0.15-0.2	0.15-0.2	0.4-0.6	0.4-0.6
	70	/	/	/	/	/	/	/	/	/	0.1-0.13	0.1-0.13	0.2-0.3	0.2-0.3
	80	/	/	/	/	/	/	/	/	/	0.08-0.1	/	0.2-0.25	0.2-0.25
	90	/	/	/	/	/	/	/	/	/	0.05-0.06	/	0.14-0.18	0.14-0.18
	100	/	/	/	/	/	/	/	/	/	0.04-0.05	/	0.08-0.12	0.08-0.12

Comparison Table Of Cutting Parameters														
Material	Thickness (mm)	Cutting Speed m/min												
		1kW	1.5kW	2kW	3kW	4kW	6kW	8kW	10kW	12kW	20kW	30kW	40kW(100u)	40kW(150u)
Aluminum Sheet (Nitrogen)	1	6.0-10.0	10.0-20.0	15-25	25-38	35-45	42-55	50-65	60-75	45-50	/	55-60	/	/
	2	2.8-3.5	5.0-7.0	7-10.0	10.0-18.0	13-24	20-40	25-38	33-45	30-35	/	40-45	/	/
	3	0.7-1.5	2.0-4.0	4.0-6.0	6.5-8.0	7.0-13	15-25	20-30	25-35	20-25	30-35	30-35	/	/
	4	/	1.0-1.5	2.0-3.0	3.5-5.0	4.0-5.5	9.5-12.0	13-18	21-30	18-20	25-30	25-30	/	/
	5	/	0.7-1.0	1.2-1.8	2.5-3.5	3.0-4.5	5.0-8.0	9.0-12	13-20	14-16	18-20	18-25	25-30	25-30
	6	/	/	0.7-1.0	1.5-2.5	2.0-3.5	3.8-5.0	4.5-8.0	9.0-12	10-12	16-18	18-20	20-25	20-25
	8	/	/	0.6-0.8	0.7-1.0	0.9-1.6	2.0-2.5	4.0-6.0	4.5-8.0	6-8	10-12	15-18	18-22	18-22
	10	/	/	/	0.4-0.7	0.6-1.2	1.0-1.5	2.2-3.0	4.0-6.0	4-6	9-10	12-15	14-17	14-17
	12	/	/	/	0.3-0.45	0.4-0.6	0.8-1.0	1.5-2.0	2.2-3.0	2-3	5-6	10-12	11-13	11-13
	14	/	/	/	/	/	/	/	/	1.5-2.5	4-5	8-10	9-11	9-11
	16	/	/	/	/	0.3-0.4	0.5-0.8	1.0-1.6	1.5-2.0	1.3-2	3-4	6-8	7-9	7-9
	18	/	/	/	/	/	/	/	/	1-1.6	2-3	3-4	5-7	5-7
	20	/	/	/	/	/	0.5-0.7	0.7-1.0	1.0-1.6	0.8-1.2	1.5-2	2-3	4-5	4-5
	25	/	/	/	/	/	0.3-0.5	0.5-0.7	0.7-1.0	0.5-0.7	1-1.2	1.5-2	3-3.5	3-3.5
	30	/	/	/	/	/	/	/	0.5-0.7	0.25-0.3	0.8-1	0.8-1	2-3	2-3
	40	/	/	/	/	/	/	/	/	/	0.5-0.8	0.5-0.8	1-1.5	1-1.5
	50	/	/	/	/	/	/	/	/	/	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6
		/	/	/	/	/	/	/	/	/	0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3

Comparison Table Of Cutting Parameters														
Material	Thickness (mm)	Cutting Speed m/min												
		1kW	1.5kW	2kW	3kW	4kW	6kW	8kW	10kW	12kW	20kW	30kW	40kW(100u)	40kW(150u)
Copper Sheet (Nitrogen)	1	6.0-10.0	8.0-13	10.0-16.0	20-35	25-35	35-45	55-65	65-75	35-45	40-45	40-45	/	/
	2	2.8-3.6	3.0-4.5	4.5-7.5	6.0-10	8.0-12	20-30	30-40	33-45	30-35	35-40	35-40	/	/
	3	0.5-10	1.5-2.5	2.5-4.0	4.0-6.0	5.0-8.0	12-18	20-30	25-40	18-22	28-30	28-30	/	/
	4	/	1.0-1.6	1.5-2.0	3.0-5.0	3.2-5.5	5.0-8.0	10-18	14-24	15-18	19-22	20-25	/	/
	5	/	0.5-0.7	0.9-1.2	1.5-2.0	2.0-3.0	4.5-6.0	7.0-9.0	9.0-15	12-15	18-19	18-20	25-30	25-30
	6	/	/	0.4-0.7	1.0-1.8	1.4-2.0	3.0-4.5	4.5-6.5	7.0-9.0	8-10	12-15	15-18	20-25	20-25
	8	/	/	/	0.5-0.7	0.7-1.2	1.6-2.2	2.4-4.0	4.5-6.5	5-7	8-10	10-15	18-22	18-22
	10	/	/	/	/	0.2-0.5	0.8-1.2	1.5-2.2	2.4-4.0	4-5	7-8	8-10	10-14	10-14
	12	/	/	/	/	/	0.3-0.5	0.8-1.5	1.5-2.2	1.8-2	2.5-3.5	5-8	8-11	8-11

Consumable Supplies		
Name	Lifespan	Recommended stock quantity
Focusing protective lens	40 hours	3-5 pieces
Collimating protective lens	500 hours	1-3 pieces
Focusing lens	Approximately 3000 hours	2 sets
Collimating lens	Approximately 3000 hours	1 set
Nozzle	120 hours	Based on the variety of sheet metal being cut by the customer, it is recommended to purchase 3-10 units of the required model.

Conditions For On-site Installation Preparation		
Serial Number	Content	Requirements
1	Power supply capacity	Not less than 120 KVA
2	Power supply quality	Three-phase voltage instability ≤ ±5% Three-phase power imbalance ≤ 2.5% Grounding resistance should be ≤ 3 ohms, and the power supply voltage should not suddenly cut off.
3	Compressed air	For high-pressure air cutting, the pressure should be ≥13 kilograms and the flow rate should be ≥1.5 cubic meters. The dew point temperature should not exceed. The oil content should be ≤0.01 ppm and the solid particles should be ≤0.01 micrometers.
4	Auxiliary gases	The purity of oxygen and nitrogen should be ≥99.96%.
5	Cutting material	Smooth, flat, rust-free, and uniformly rolled, meeting ISO standards.
6	Foundation requirements	Equipment installation foundation must have no settlement, constructed according to the foundation drawings provided by Party B.
7	On-site conditions	The working environment should have a stable temperature of 5-30 ℃. The humidity requirement is less than 70%. After the equipment installation and debugging, the laser should be isolated and an air conditioner should be installed.
8	Operators	Personnel with basic skills in electrical, mechatronics, and CNC machine tooloperations.
9	Other supporting equipment	Equipped with a computer for programming and monitoring laser operation. Equipped with the necessary cables for on-site equipment installation.