



瑞铁机床

Future A

Fiber Laser Cutting Machine

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PROFESSIONAL/CONSISTENT/DEDICATED/EXCELLENT



Deratech Machine Tool (Suzhou) Corp., Ltd, a giant in the field of sheet metal forming and processing in China. Located in Taicang, Jiangsu Province, adjacent to Shanghai, the company mainly produces CNC press brakes, bending centers, laser cutting machines, flexible production units and other sheet metal forming processing equipment and equipment sets, and its products are well sold in domestic and abroad. With the continuous development of the company's business, all aspects of the company's strength are stepping up to a new level.

The company has always taken it as its mission to develop more cost-effective, durable and better sheet metal forming and processing equipment, to drive product iteration with technological advancement and drive enterprise development. In recent years, the products of Deratech have become more and more recognized by the industry and favoured by customers. With the successive launch of electric servo CNC press brakes and bending centers, the company will always focus on the perfection of its products to create more value for customers.

To date, Deratech has been granted over 100 patents (including 8 invention patents). It has been awarded as "Jiangsu Province Specialized and Sophisticated SMEs", "Jiangsu Province High and New Technology Enterprise", "Jiangsu Province Provincial Enterprise Technology Centre", "Jiangsu Province High-end sheet metal CNC machine tools strategic emerging industry standardization pilot", "Jiangsu Province intelligent flexible sheet metal equipment engineering research centre" and other titles, and participated in the CNC press brake national standards, industry standards revision and other work.

Driven by the target of "Made in China 2025", Deratech will continue to move forward and work hard. Growing up with customers and staying with them for a long time is Deratech's faithful commitment to customers.



## Future A Fiber Laser Cutting Machine



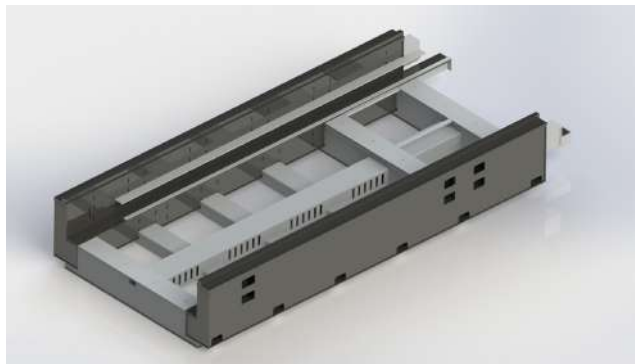
Future A series fiber laser cutting machine is a high-tech equipment integrating laser technology, CNC technology and precision machinery technology. It has a fiber laser with first-class electro-optical conversion efficiency, which can provide constant power and excellent beam quality, and is equipped with auto-focusing fiber cutting head and flexible and efficient exchange table to make the shape and quality of workpiece precise and stable, and improve production efficiency.



## PRODUCT FEATURES

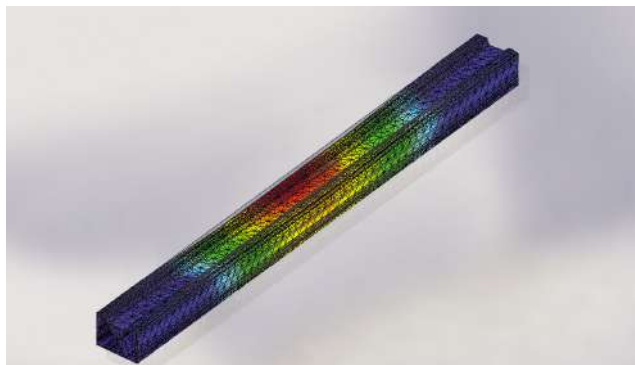
### High-Strength Main Frame

Integral gantry structure, high strength steel plate welded bed, annealing stress relief treatment, rigid enough, small deformation. Cutting area configuration dust removal device: single channel middle dust removal design, the tail through the air duct directly to the dust removal equipment, air volume vortex does not exist loss; double-row cylinder multi-partition arrangement, through the CNC system control, so that dust removal time, segmentation, zoning arbitrary switch. The bottom of the bed is arranged with waste storage. The bottom of the bed is arranged with waste storage box, centralized cleaning, convenient and quick.



### Aviation Level Special Formed Aluminum Beam

Adopting lightweight design concept and finite element optimization analysis, the dynamic performance is good. The beam base and Z-axis slide plate adopts high-strength cast aluminum integrated molding design, which is lightweight, compact, high-precision, and quick-response.



### Laser Cutting Head

Equipped with German Precitec/Swiss RayTools automatic focusing cutting head, it can realize non-inductive perforation, smart cutting, high-speed leapfrogging, ultra-small taper cutting, high-gloss cutting, etc. High-power focusing, more efficient cooling, real-time early warning and monitoring, to ensure the stable and long-term operation of the machine.



### Dual Temperature and Dual Control Water Cooling System

High-quality brand refrigeration components, real-time warning feedback, cooling more efficient. The dual-temperature dual-control design serves as a strong shield for the cooling and protection of the laser and cutting head, which more effectively prolongs the service life of the equipment.



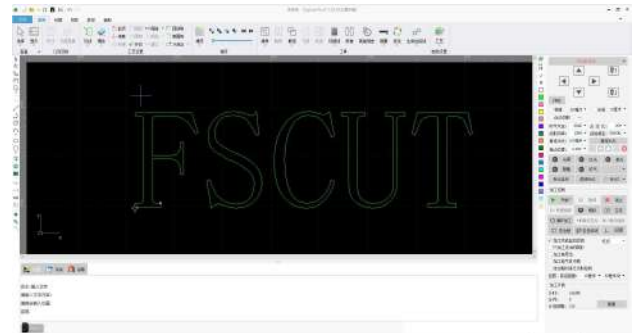
### Laser Source

It can be equipped with fiber lasers such as German IPG/Chuangxin MAX, with higher modularity and integration, and superior processing performance. Continuous and stable output, high electro-optical conversion efficiency, low failure rate, more stable operation, and more convenient maintenance.



### CNC System

Adopt FSCUT laser cutting machine special CNC system, powerful computing processing ability ensures higher stability, human-machine interactive interface makes operation more intelligent. Built-in high-efficiency automatic nesting module, together with the follower cutting head and embedded process database, realize a variety of laser-specific functions in all aspects.



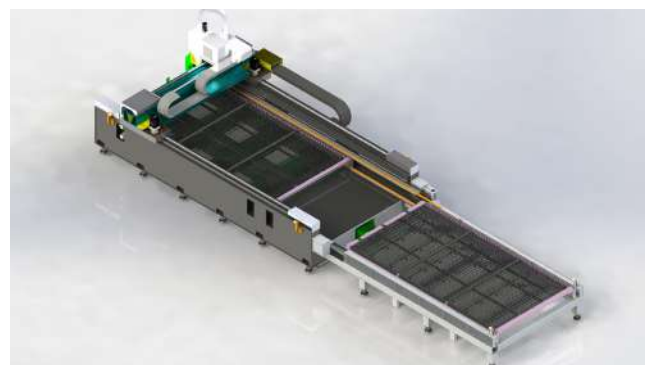
### AC Servo Drive Unit

A full set of servo motors improve the speed and accuracy of the machine tool. Servo drives and motors are used in complete sets to give full play to the high-quality dynamic performance of the machine tool.



### Exchange Table

Adopt FSCUT laser cutting machine special CNC system, powerful computing processing ability ensures higher stability, human-machine interactive interface makes operation more intelligent. Built-in high-efficiency automatic nesting module, together with the follower cutting head and embedded process database, realize a variety of laser-specific functions in all aspects.



# SAFETY CONTROL

## Automatic Edge Finding Function

The laser cutting head has a modular integrated sensor that automatically detects the edge of the sheet. The onebutton operation is fast and convenient, without the need for personnel to participate in the adjustment, which improves the efficiency of the machine.

## 电容寻边

输入错误的板材尺寸会导致扎头的风险，请按实际板材尺寸输入！

1. 板材尺寸 X: 1220毫米 Y: 2450毫米

留边距离 X: 5毫米 Y: 5毫米  5点寻边 (推荐薄板使用)

2. 在机床【右下】区域指定寻边起始点P1

从寻边起始点开始寻边

从当前切割头停留位置开始寻边

## Cutting Auxiliary Gas Pressure Control

Real-time adjustment of cutting auxiliary gas pressure. A variety of auxiliary gas automatic switching function.

本页所有参数仅用于估算加工时间，不用于加工。加工参数请在机床上设置！

运动控制参数

X空移速度: 200 毫米/秒	空移加速度: 2000 毫米/秒 <sup>2</sup>
Y空移速度: 200 毫米/秒	空移加速度: 2000 毫米/秒 <sup>2</sup>
惰边速度: 150 毫米/秒	
加工加速度: 2000 毫米/秒 <sup>2</sup>	

长通芯频率: 4 Hz 伺服机床需对轴电机频率(2~8Hz)进行设置。值越小，加载速度越快，过程越慢，反之亦然。

圆弧控制精度: 0.030 毫米 圆弧加工精度上限(0.001~0.02默认0.01)。值越小，圆弧精度越高，速度越慢，反之亦然。

拐角控制精度: 0.100 毫米 拐角过渡精度上限(0.01~0.02默认0.1)。值越小，拐角精度越高，过渡越慢，反之亦然。

默认参数

开气延时: 0 毫秒	时间单位: 毫秒
首点开气延时: 200 毫秒	速度单位: 毫米/秒
进气延时: 500 毫秒	加速度单位: 毫米/秒 <sup>2</sup>
冷却延时: 1000 毫秒	气压单位: BAR

## Air Cutting Function

Air compressors, cold compressors, and filters are required to make the air meet the cutting requirements and greatly reduce the cutting cost.



## Laser Power Control

During the cutting process, it automatically detects changes in path, speed, etc., and controls the laser output power in real time to provide the best beam quality. Avoid overburning when cutting small contours or sharp corners, and achieve the best cutting effect.

从文件读取

切割 穿孔

切割速度: 200 毫米/秒

上抬高度: 10 毫米

惰边速度: 1 毫米/秒

气压: 5 BAR

惰边功率: 100 %

点空比: 100 %

脉冲频率: 1000 Hz

光斑直径: 1 X

焦点位置: 0 毫米

保留时间: 200 毫秒

关光源延时: 0 毫秒

横进退步 距离: 0 毫米 速度: 2 毫米/秒

横进停止 距离: 0 毫米 速度: 2 毫米/秒

实时功率  实时频率

曲线编辑

Speed (%)	Frequency (%)
10	50
20	60
30	70
40	80
50	90
60	95
70	98
80	100

<b>PARAMETERS - Future A</b>				
Model	Future A3015	Future A4020	Future A6020	Future A6025
Machining area (mm)	3000×1500	4000×2000	6000×2000	6000×2500
X-axis stroke (mm)	1550	2050	2050	2550
Y-axis stroke (mm)	3050	4050	6050	6050
Z-axis stroke (mm)	300	300	300	300
Positioning precision of X/Y axis (mm/m)	±0.05	±0.05	±0.05	±0.05
Repetitive positioning precision of X/Y axis (mm/m)	0.03	0.03	0.03	0.03
Maximum speed (m/min)	100	100	100	100
Maximum acceleration speed (g)	1.1	1.1	1.1	1.1
Laser source power (W)	≤6000	≤6000	≤6000	≤6000
Dimensions (mm)	9000×3000×2500	11000×3500×2500	15500×3600×2500	15500×4100×2500

**DERATECH**

**瑞铁机床**

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