

FIBER LASER
METAL SHEET CUTTER
Full Enclosure and Hydraulic
Exchanging Shuttle Table



Our **MACH SPEED** model includes:

Main machine, direct drive system, Z-axis, laser cutting head, shuttle table, laser source, control system, water chiller, transformer, stabilizer, etc.

► Machine Body

High-rigidity welded body, compact design, and stable performance.

► Gantry

Special molding technique made aviation aluminum gantry: lightweight, strong rigidity, high precision, fast response, and stable running.

► Z-Axis System

Integral molding die-cast aviation aluminum Z-axis equipped with a high-precision ball screw system, for rigidity, and fast response.



Transmission System ◀

The synchronous drive system on both sides of the gantry, equipped with a high torque servo drive system and perfect laser welded gear system. Ensuring powerful driving, high accuracy cutting, and excellent dynamic response.

Optional Laser Heads:



- Han's Laser Head ► Raytools Laser Head ► Precitec Laser Head ► BOCI BLT Laser Head

Optional laser Source:

The generator is suggested according to the specifications and cutting needs



- BC Power laser source ► MAX Photonics Laser Source ► IPG laser source



- Coractive laser source ► Han's Photonics Laser Source

► Control Systems:



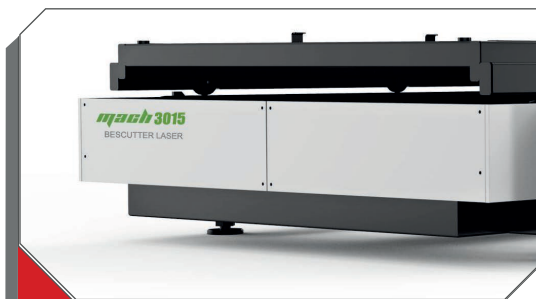
► FSCUT8000 Control system

FSCUT8000 is an EtherCAT bus system designed for ultra high power fiber laser, featured out-of-box service, is easy to install and adjust, full solution functions. It supports customization, automation, and informatization solutions, and is the leading-edge EtherCAT laser-cutting control system on the market.

- **Vision remnant reuse:** capture remnant sheets with your phone camera or machine camera to reuse the material with high efficiency.
- **Find edge:** up to 500mm/s high speed with precision find sheet edge, also provide optional find edge patterns to meet your production needs.

► High-Pressure Servo-control Valve

Programmable cutting gas control thanks to the servo-control valve, can switch the type of cutting gas automatically, and accurately control the gas pressure without user intervention, user friendly and reduce gas consumption.

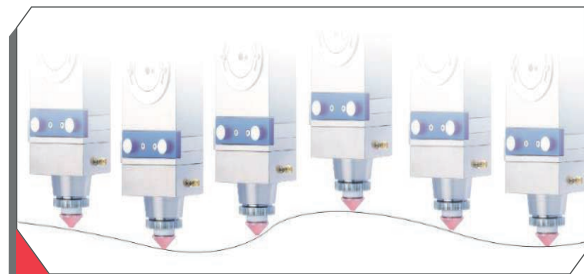


► Hydraulic auto-exchanging shuttle tables

With parallel auto-exchanging shuttle table system ensures synchronous running, good efficiency, and reliability.

► Leapfrog:

A parabolic lifting motion is adopted between cutting contours, while the traditional cutting system uses "rectangular" motion. The system sets the take-off height and the highest height through PLC, and the contour switching process automatically realizes "frog jump", which greatly improves cutting efficiency.

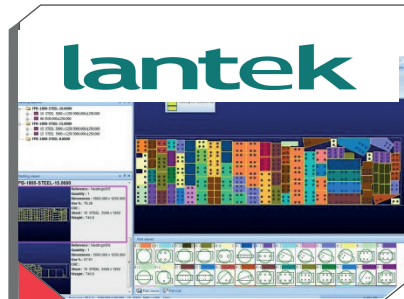


Optional Nesting Softwares:



► CypNest:

Is an upgrade nesting software designed for CypCut/HypCut sheet laser cutting system. It integrates advanced functions of drawing modification, quick nesting, and toolpath generation such as heat concentration avoidance, analysis report, price report, and more.



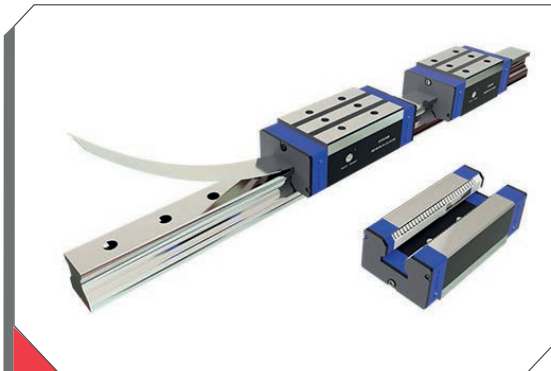
► Lantek:

Lantek integrates the most advanced nesting software in the industry with the highest standards in manufacturing management solutions.



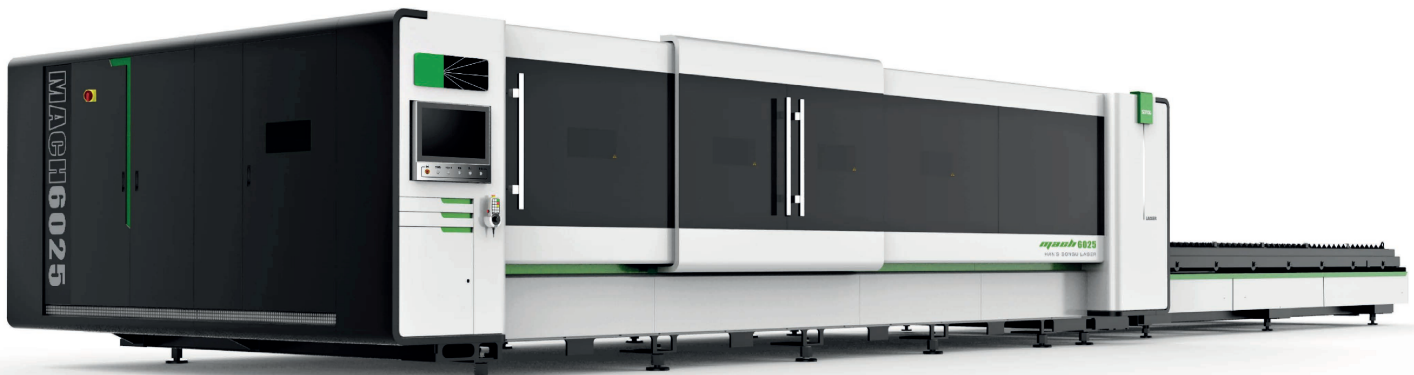
► CutLeader:

CutLeader is a standalone CAD/CAM with automatic nesting designed for 2D cutting machine. Flexible machine configuration and postprocessor enable the software supports all kind of CNC machines.



► Linear Guide Rail

Linear slide rails use roller-type rolling elements instead of steel balls and are designed to achieve ultra-high rigidity and super-heavy load capacity. Through the realization of ultra-high rigidity, the processing accuracy can be greatly improved to meet the high-precision requirements; due to the characteristics of the super-heavy load, the service life of the linear slide rail can be extended.



Upgrade:



► Dust Collection System (optional)

Composite material processing dust removal, powder recovery, and many other occasions. Heavy-duty processes such as automated assembly lines.



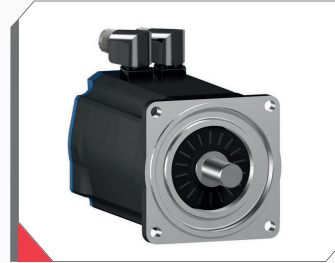
► Air Compressor-Dryer (optional)

Compact Unit Structure and Low Noise Design.
No friction loss, high mechanical efficiency, no resistance loss of suction and exhaust valves.
Can be unattended all day work, no-load automatic start, full-load automatic shutdown.



► Solenoid Valve

The circuit function of the solenoid valve is normally closed (voltage = open) and semi-direct operating, so no pressure differential is required.



► Servo motor (Alpha)

The servo motor enjoy fast dynamic response speed and performances stably. It has high inertia and large torque output.



► Electrical Components (SMC / Airtac)

High flexible cable, suited for long term durability.



MACH SPEED INTELLIGENT FIBER LASER CUTTER

Standard working area	238.18" x 100.39" (6050 x 2550 mm)
Optional working area	13' x 6.5' (4,000 x 2,000 mm) / 20' x 6.5' (6100 x 2000 mm) 26' x 6.5' (8000 x 2000mm)
Optional Laser Wattage	From 6,000W to 15,000W
X, Y, Z axis distance	61" (3,050 mm) / 120" (1,550 mm) / 3.93" (100 mm)
X, Y Two-axis coordinated positioning speed (MAX)	2.4 G
Positioning acceleration (MAX)	<0.373 mrad
Positioning accuracy	±0.05 mm/m
Re-positioning accuracy	±0.02 mm
Maximum load weight	1.058 lb (4800 kg)
Laser resonator	BC Power / Han's / MAX / IPG / Corative
Laser head	RayTools / Precitec / Han's / BOCI BLT
Controlling System	FSCUT8000 (Shanghai) - Beckhoff (German Brand - Optional)
X-Y-Z Servo Motors	X-2x9700W; Y- 1x6880W ; Z-1x940W
Machine Weight	28200 lbs (12800 kg)
Dimensions	610.2" x 165.35" x 86.6" (15500 x 4200 x 2200 mm)

MACH SPEED AUXILIARY LIST:

STANDARD AUXILIARY:	
Water Chiller	1 unit
Exhaust Fan Blower	1 unit
Transformer	1 unit
Stabilizer	1 unit
OPTIONAL ITEMS:	
Refrigerant Dryer and Filter	1 unit
Air Compressor	1 unit
Air Pressure Reducing Valve	4 units

► Maintenance

- Check the Machine independently and complete the basic maintenance according to the maintenance requirement.
- Through training, the user can learn the basic safety procedures for maintenance.

► Safety Training

- Learn about safety protection measures. For fiber laser machines.
- Master the necessary safety skills in the operation.

MACH SPEED MACHINE CONFIGURATION

MACHINE BODY

Driving System	Beckhoff (Germany)
Direct Drive Servo Motor	Alpha (Germany)
High Precision Gear Rack	Alpha (Germany)
High Precision Linear Guide Rail	Rexroth (Germany)
Cable Towline	IGUS (Germany)
Control System	Beckhoff (Germany)
Laser Source	BC Power / Han's / MAX / IPG / Corative
Laser Cutting Head	RayTools / Precitec / Han's / BOCI BLT
Nesting Software	Cypnest/Lantek/Cutleader

GAS CIRCUIT COMPONENTS

Cylinder	SMC/Airtac
Throttle Valve, Check Valve, Solenoid Valve	FESTO (Germany), NORGREN (U.K.), SMC (Japan)
Oil Water Separator, Filter, Gas Pipe Joint	FESTO (Germany), NORGREN (U.K.), SMC (Japan)
High Pressure Servo-Control Valve	HOERBIGER (Germany)

ELECTRICAL COMPONENTS

Contactors, Air Switch	Schneider (France)
Connection Terminal	Weidmuller (Germany)
Photoelectric Switch	SICK (Germany)
Frequency Converter	OMRON (Japan)

After the machine is delivered, BESCUTTER will arrange technicians to conduct several days training for the machine operators. The training contents are as follow.

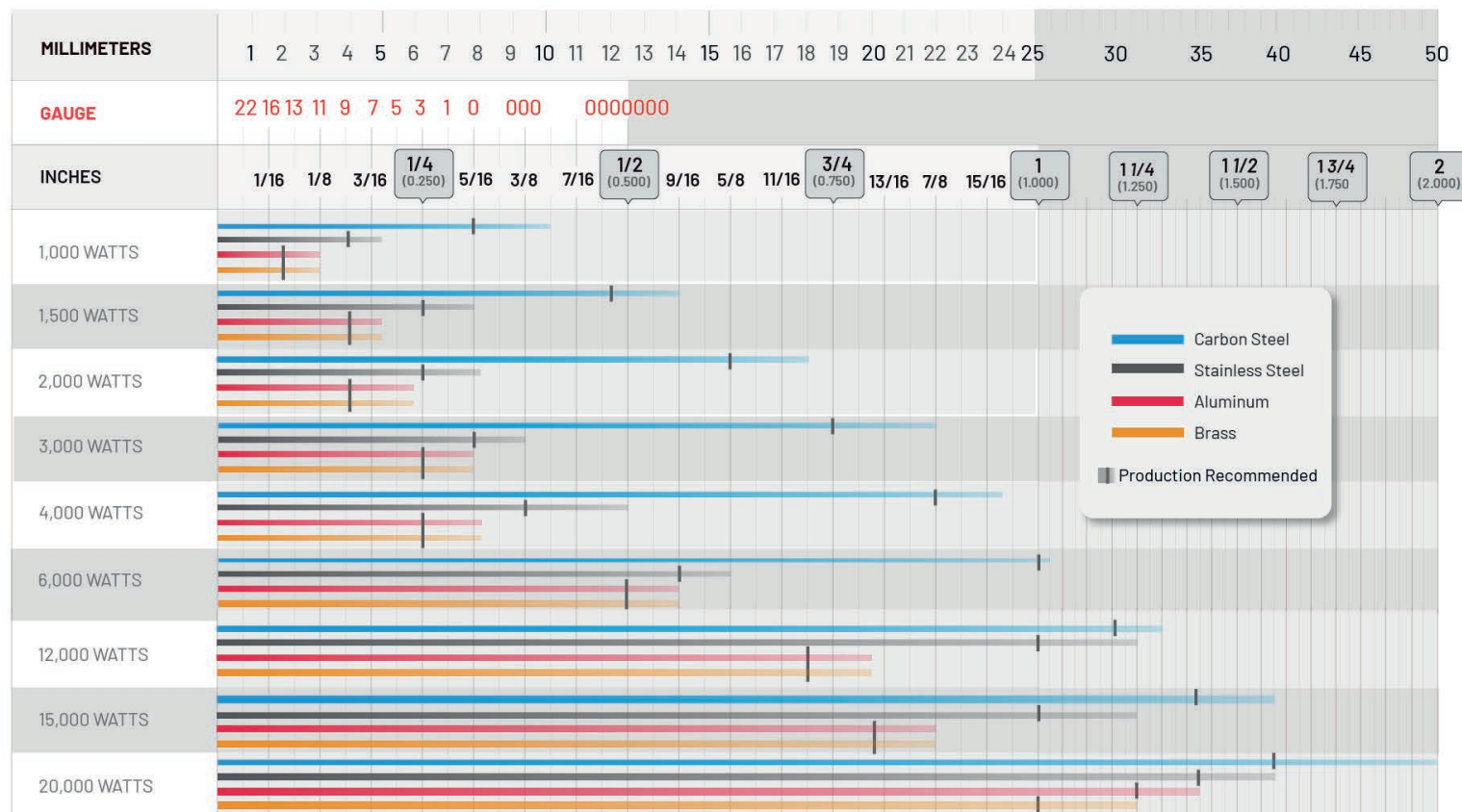
► Operation Training

- Properly independently turn on/off the Machine.
- Identify and determine system information and troubleshooting.
- Learn the functions of different parts of the fiber laser cutting machines such as CNC control, loading and unloading the material, precautions or fiber laser use, operation, etc.
- Master the use of basic parameters to cut the parts with oxygen or nitrogen or air.
- According to the cutting material, optimize cutting parameters, and replace the cutting nozzle and lenses.

► Software Training

- After training, the operator will be able to install and use programming software independently.
- A single-part drawing can be prepared; or import
- Making the part cutting plan and production plan.
- The operator will be able to enter the cutting plan in the Machine; Calculate cutting time; Make the production report. And control the machine while it is running.

1KW - 20KW POWER CUTTING CAPABILITIES REFERENCE CHART



► Laser Cutting Application

