MANTECH MANUFACTURING TECHNOLOGY

TITAN
FIBRE LASER

INFORMATION & SPECIFICATIONS

REQUEST YOUR QUOTE (CLICK)

Bed size options 1500 x 3000 | 2000 x 4000 | 2000 x 6000 | 2000 x 8000 mm

STANDARD FEATURES & EQUIPEMENT	
Available in bed sizes of	1500 x 3000 | 2000 x 4000 | 2000 x 6000 | 2000 x 8000 mm
Laser source	Raycus 1KW/1.5KW/2.2KW/3.3KW/4KW (IPG & Nlight also available)
Cutting head	Raytools
Servo motor & drive system	Y axis dual drive 1.3KW, X axis 850W, Z axis 400W. (YASKAWA – Japan)
Exchange table	Load limit 800KG standard 3 x 1.5 m machine. Custom bed strengthening available upon request.
Guide rails	HIWIN/PMI Taiwan
Gear *rack	APEX (Taiwan)
Reducer	Shimpo (Japan)
Water chiller	Tongfei - dual temperature control
CNC control	BOCHU
Software	Cypcut cutting control system
Power requirements	3 Phase AC 380V 50HZ
Training	Full training on both machine & software.
Warranty	12 months standard warranty with extended warranty periods available.

HEAD OFFICE: Newfield Road, Oldbury, West Midlands, B69 3ET.
CALL US on: 0121 541 1444
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Material Cutting Chart

MATERIAL	1KW	1.5KW	2.2KW	3.3KW	4KW	GAS ASSIST TYPE
Carbon steel	*10mm	*14mm	*18mm	*22mm	*24mm	Oxygen
Stainless steel	*5mm	*6mm	*8mm	*10mm	*12mm	Nitrogen
Aluminium	*3mm	*4mm	*5mm	*8mm	*8mm	Nitrogen
Brass	*1.5mm	*1.5mm	*2mm	*5mm	*6mm	Nitrogen

Consumables Included

ITEMS INCLUDED
X4 nozzles
X3 protective lenses
X1 focus lens
X1 ceramic ring
X1 filter element

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Technical Features

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Laser Source

Fibre laser light energy is created by banks of diodes. The light is transferred through special fibre optic cable, an efficient energy transfer compared to conventional methods. The light, upon exiting the fibre cable, is then collimated (straightened) as it approaches the focus lens – which intensifies the beam enabling it to cut through the material with astonishing speed and accuracy.

A. Superb quality of laser beam, constant BPP within all the ranges of laser powers,so that long focus can still achieve an extremely small beam width.

B. electro-optical conversion efficiency of laser supply is 25% more efficient than CO2, therefore electricity consumption is drastically reduced.

C. Laser is transmitted by fiber optic cables, almost no energy loss during transmission to cutting head.

D. Modular design, allows easy assembly and beam alignment is minimal due to fibre optic transfer (No Mirrors). In addition, auto lube traverse systems minimize maintenance procedures.

E. Life span of Laser source is approximately 100,000 hours.

Control Software System

A. Power Automation CNC Control with integrated I/O

B. Each PA CNC Systems is equipped with the HMI (Human Machine Interface). With this open, browser based all important control functions are clearly represented to the operator, so it will work within shortest training time efficiently and safely with the CNC system.

C. The CNC Systems are equipped with high-speed processors to accomplish an extremely fast 'Block Throughput". Highly accurate contours with very small NC blocks can be processed without any loss of speed. therefore, the machine always reaches the highest productivity.

D. Cypcut laser cutting control system Support AI, DXF, PLT and other graphic data formats

CAD module/ Nesting + processing function.

Control Software System

A. Dual function intelligent cooling system, ensuring the efficient operation of laser cutting head and laser source

B. 5 HP compressor, brands that are highly efficient and reliable

C. Overcurrent/ overload protection High – and low-pressure protection via means of flow switch

D. High and low temperature alarm signals output E. LCD display temperature controller with multiple function setting and error alarming

Raytools Laser Head

Raytools cutting head with high-performance non-contact capacitive height sensor is used and is designed to withstand high 'gas assist' pressures.

The proven lens cartridge change system makes switching lenses for different materials or applications fast & simple.

A. High cutting speed with the best cutting quality

B. Quick change-over between three focal lengths without changing the TCP (Tool Centre Point)

C. Protective window (lens) can be replaced as a consumable part, to extend the life of the focusing lens.

Machine Structure

The machine body is a monobloc frame structure. The machine's inertia remains the same for all material thicknesses and sizes to be cut, which gives optimum quality of the laser beam at the cutting head as well as its movement and accuracy.

The compactness and robustness of this monobloc structure guarantees an optimum rigidity and stability. The machine frame incorporates collector trays on wheels (situated under the cutting table) for removal of scrap and small components falling through the table grids

Transmission System

A. Precise positioning & repeatability rack and pinion system (Atlanta, Germany)

B. Square rail (HIWIN, TAIWAN)

C. Fixed on the stable monobloc structure, the transmission system for the X-, Y- and Z-axis guarantee very precise movements of the gantry and laser cutting head.

Driving System (YASKAWA)

Closed loop AC servo drive system and servomotors to ensure high dynamics, vibration- free operation and maximum precision

A. Yaskawa servo motors (Japan) Y Axis Dual Drive (3KW Y1/Y2) X Axis (1800W) Z Axis (850W)

B. The servo reducer (Shimpo, Japan) combined with the transmission system (see 4.5) and optimised for the servo motors results in the desired accuracy and motion at the rack and pinion.

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