PRODUCT

DATA SHEET

Bending
Cutting
Welding
Marking

2024-2025

HIGHTECH INDUSTRY GROUP

BUILD . TO LEAD .

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HT 4 IN 1

FIBER LASER WELDING MACHINE

"4-in-1" multi-functional
In addition to laser welding, it can also support functions such as cleaning, cutting, and seam cleaning.

Stable fiber-laser source with high beam quality, enabling precise, high-quality welds on stainless steel, carbon steel, aluminum and more

High operational efficiency with easy setup, low entry barrier, and a user-friendly control interface

MAX MFSC LASER

THE MAX MFSC LASER IS A COMPACT, HIGH ELECTRO-OPTICAL CONVERSION EFFICIENCY, AND STABLE FIBER LASER. THE PRODUCT FEATURES ADVANCED OPTOELECTRONIC DESIGN, OFFERING ADVANTAGES SUCH AS EXCELLENT WELDING RESULTS AND COMPATIBILITY WITH VARIOUS BUS SYSTEMS.

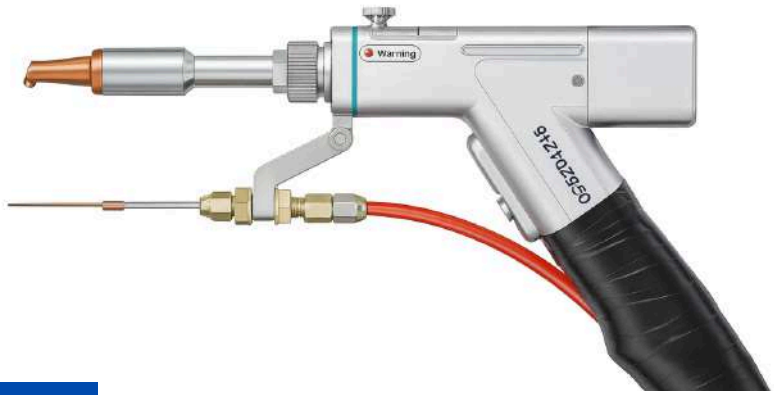
IT IS WIDELY USED IN LASER WELDING, LASER CLADDING, LASER BRAZING, AND LASER SURFACE HEAT TREATMENT, AMONG OTHER APPLICATIONS.

S&A CHILLER SYSTEM

DUAL-CIRCUIT TEMPERATURE CONTROL ENSURES CONSISTENT COOLING FOR BOTH THE FIBER LASER AND THE WELDING/CLEANING GUN. THIS MAINTAINS BEAM STABILITY DURING LONG HOURS OF OPERATION, DELIVERING SMOOTHER WELDS, CLEANER SURFACES, AND SHARPER CUTS.

ENGINEERED TO SUPPORT A WIDE RANGE OF HANDHELD LASER OPERATIONS, FROM HIGH-DUTY WELDING TO PRECISION CLEANING AND LIGHT-DUTY CUTTING. RELIABLE THERMAL STABILITY REDUCES DOWNTIME AND ENHANCES OVERALL PROCESSING QUALITY.

PARTS



23T WELDING HEAD

A SELF-DEVELOPED CONTROL SYSTEM WITH INTEGRATED DESIGN ENABLES REAL-TIME MONITORING, MULTI-LEVEL SAFETY ALERTS, AND INSTANT FAULT RESPONSE, ENSURING STABLE AND CONSISTENT HANDHELD WELDING PERFORMANCE.

THE INTEGRATED STRUCTURE REDUCES FAILURE RATES AND SIMPLIFIES MAINTENANCE, WHILE STABLE NOZZLE PRESSURE, LENS CONDITION, AND LASER POWER IMPROVE REPEATABILITY AND OVERALL WELDING EFFICIENCY.

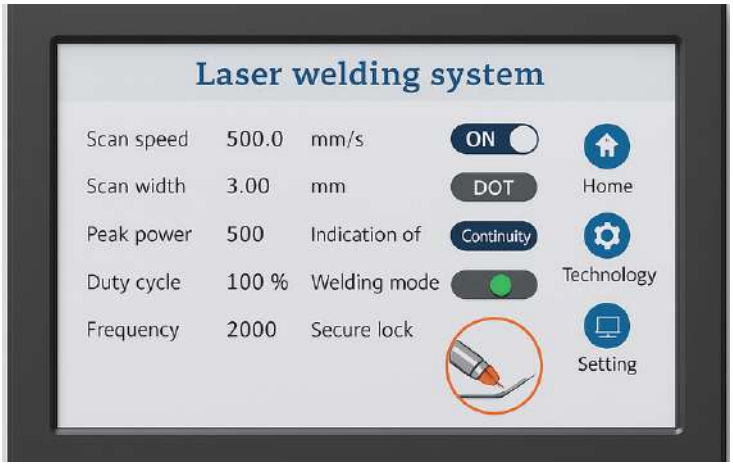
WELDING CONTROLLER

THE CONTROLLER ENABLES PRECISE LASER POWER, WAVEFORM, GAS TIMING, COOLING, AND SAFETY-IO MANAGEMENT, ENSURING A STABLE AND CONSISTENTLY FOCUSED LASER BEAM. THIS RESULTS IN NARROW, CLEAN WELD SEAMS, MINIMAL DEFORMATION, AND HIGH REPEATABILITY.

PARTS

PARAMETER SYSTEM

PRECISE PARAMETER CONTROL: THE INTERFACE OFFERS VARIOUS ADJUSTABLE SETTINGS, SUCH AS LASER POWER, FREQUENCY, AND SCAN SPEED、WIDTH, ALLOWING OPERATORS TO FINE-TUNE THE MACHINE BASED ON MATERIAL AND WELDING REQUIREMENTS FOR OPTIMAL RESULTS.



PANEL CONTROL SYSTEM

THE PANEL COMBINES POWER, CHILLER, AND LASER SWITCHES WITH A TOUCHSCREEN INTERFACE, ENABLING FAST ACCESS TO KEY FUNCTIONS AND CLEAR VISIBILITY OF OPERATING STATUS.

A DEDICATED EMERGENCY STOP AND WELL-ORGANIZED CONTROL LAYOUT ENSURE IMMEDIATE SHUTDOWN WHEN NEEDED, REDUCE MISUSE, AND MAINTAIN STABLE, SAFE WELDING PERFORMANCE.

Technical Parameters

Laser Power	1500W/2000W/3000W
Packing Size	155*70*137cm (1.5m³)
Packing Weight	215KG
Laser Source	Max
Water Cooling System	S&A Chiller
Control System	Welding Controller System
Welding Head	23T A self-developed Control System
Working Temperature (℃)	10 ~ 40℃
Working Humidity(%)	≤70%
Wavelengths	1064nm（±10nm）
Collimator Specification(mm)	D16-F60
Focus Mirror Size (mm)	D20-F150
Protective Mirror Size (mm)	D18xT2
Air Pressure	≤15Bar
Focus Vertical Adjustment Range	±10mm
Scan Width-Welding	0~8mm
Scan Width-Cleaning	F150-0~30mm/F400-0~60mm/F800-0~120mm
Machine Cabinet	Hightech, industrial-grade anti-jamming cabinet
Wire Feeder	AMF-A Wire feeder
Input Power	Single Phase 220V(1500W&2000W),50Hz/60Hz Three-phase 380V(3000W)，50Hz/60Hz
Applicable Material	Stainless steel, Carbon steel, Aluminum plates etc.

Welding Capacity

Power	Stainless Steel	Carbon Steel	Aluminum
1500w	0.5-4mm	0.5-4mm	0.5-3mm
2000w	0.5-5mm	0.5-5mm	0.5-4mm
3000w	0.5-6mm	0.5-6mm	0.5-3mm

Welding parameter settings

Technology→process library→carbon steel		
Scan Speed	300	mm/s
Scan Width	3	mm
Peak Power	600	W (Adjust accordingly based on the material thickness (increase/decrease).)
Duty Cycle	100	%
Frequency	2000	Hz
Feeding Speed	60	cm/min
Weld Wire Diameter	1	mm
Copper Nozzle	AS-12	Select the appropriate copper nozzle model based on the welding method.

Cleaning parameter settings

Switch to laser cleaning system→Change Focus lens- F800		
Technology→Technology 1		
Scanning Frequency	50	Hz
Scan Width	120	mm
Peak Power	500	W
Duty Cycle	100	%
Frequency	2000	Hz
Save→Import		
Feeding Speed	Close	
Copper Nozzle	Replace the focusing lens group	

Weld bead cleaning parameter settings

Technology→process library→other		
Scan Speed	600	mm/s
Scan Width	8	mm
Peak Power	300	W (Adjust accordingly (increase/decrease).)
Duty Cycle	100	%
Frequency	2000	Hz
Feeding speed	Close	
Copper Nozzle	AS-20D	

Cutting parameter settings

Indication of red light→Close		
Technology→process library→other		
Scan Speed	0	mm/s
Scan Width	0	mm
Peak Power	800	W (Adjust accordingly based on the material thickness (increase/decrease).)
Duty Cycle	100	%
Frequency	1000	Hz
Feeding Speed	Close	
Copper Nozzle	C-Single layer 1.5mm	

ABOUT US

BUILD . TO LEAD .

Based in Weifang, Shandong, our modern manufacturing base covers over 12,000 m² and integrates research, development, production, and testing in one facility — ensuring stability, efficiency, and quality at every stage.

Hightech provides professional installation, training, and lifetime technical support. Our responsive service team and spare-parts centers ensure fast solutions and long-term reliability for every customer.

Equipped with advanced CNC machining centers, laser cutting systems, precision welding equipment, and intelligent assembly lines, Hightech continuously upgrades its technology to meet global industrial standards.

Driven by passion and professionalism, our international team of engineers, designers, and sales specialists works together to deliver innovative machines and trusted partnerships worldwide under the Hightech brand.

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