

STRONGEST LASER



REDEFINE THE PERFORMANCE OF HANDHELD LASER WELDERS

Strongest Laser Welding Solutions



LEARN MORE

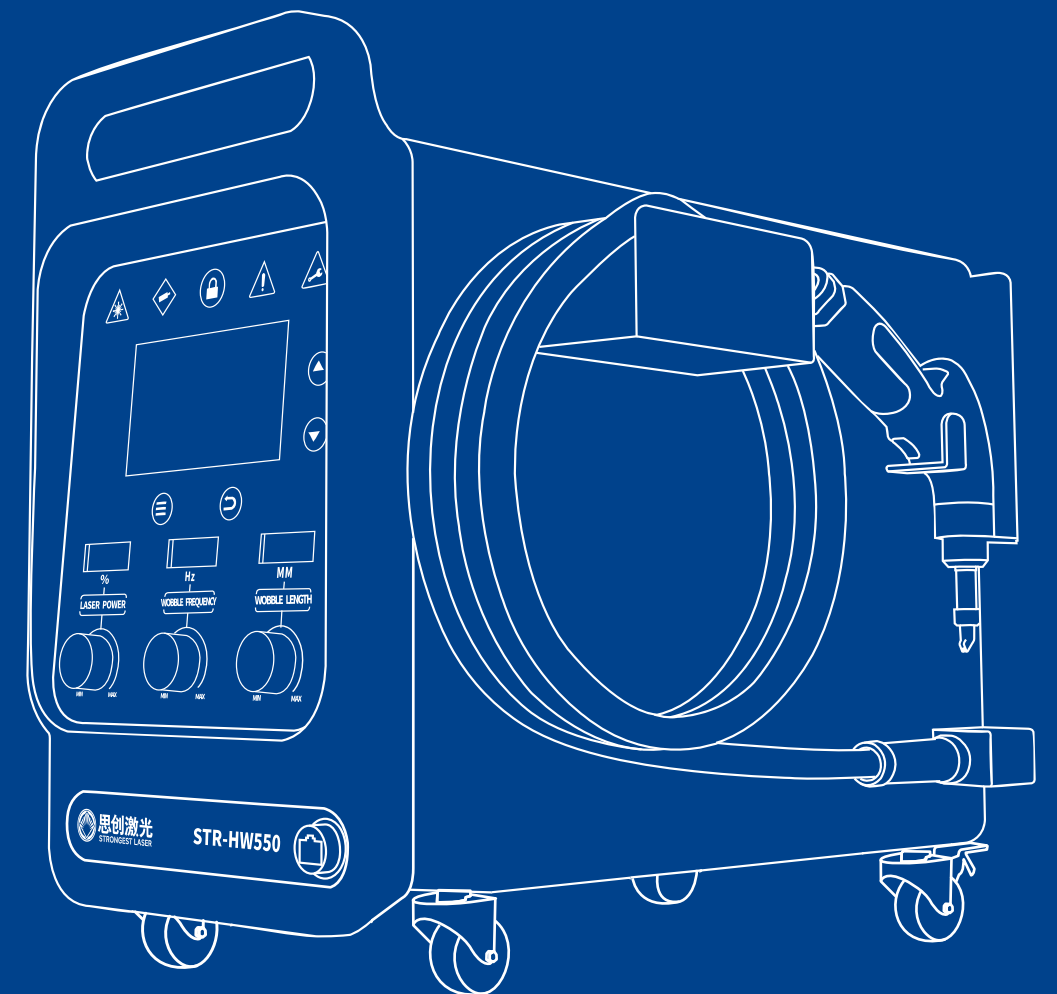
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Sichuan Strongest

Laser Technology Co., Ltd (STR)



Based on its core competence in high power fiber laser technologies, STR has always been committing itself to R&D and equipment production in such application fields as conventional laser welding, special laser hybrid welding and precision cutting. It is a "National High-Tech Enterprise" engaged in R&D, production, sales, and technical service.

Guided by market demand and the national strategy of supporting the development of emerging industries and industrialization, STR has strengthened the comprehensive competitiveness of its core technologies, key components, and main products, and gradually established a product system in high-end industrial applications, defense applications, and other fields.

Over the years of development, STR has provided various services to over 1000 enterprise users and professional services for over 10,000 times. Its sales network covers over 30 provinces and provincial-level municipalities in China, and its products are exported to dozens of countries including the United States and some in Europe, and Southeast Asia.

STRONGEST LASER

Technology & R&D

STR boasts a R&D team that can be rated as the first-class in China, which has been driving technological innovation in the industry and continuously enhancing its competitiveness as an enterprise.



STR excels many other counterparts as a result of tremendous R&D strength supported by an average annual R&D investment of about CNY 30 million.

Through continuously introducing excellent talents and developing their professional competence, STR have established a proven and experienced R&D team consisting of 8 doctorate holders and over 20 master degree holders, the number of which accounts for more than 30% of the company's total staff.

Multiple Industry-Leading Technologies

- Integration Technologies for High Power Fiber Laser
- High Power Pumping Beam Combining Technology
- Mode Instability Suppression Technology
- Laser Thermal Management Technology
- Coaxial Arrangement Technology for Laser-Assisted Plasma Arc Welding
- Ultra Stable Water Jet Technology



At present, the R&D and production workspace of STR has a total floor area of over 10,000 square meters, featuring a complete set of facilities for R&D, product production, and application testing, including a 4000 square meter optical cleaning workshop, and equipped with a full spectrum of internationally advanced experimental instruments and equipment.



STR-HW Series Handheld Laser Welding

Redefine the Performance of Handheld Laser Welders

- ⦿ Larger Penetration
- ⦿ More Stable Operation
- ⦿ Faster Welding Speed
- ⦿ Longer Life Cycle and Up Time

Integrated Intelligent Handheld Laser Welders——True to their Names

Based on the self-developed "small core diameter" laser technology, the STR-HW Series handheld laser welders adopt a new dual circuit refrigerant direct cooling system and integrated structural design. These welders can provide customers with such experiences as high effectiveness, large penetration, high energy-efficiency, and high convenience. These welders can weld various metal materials, including aluminum, stainless steel, carbon steel, galvanized sheet, brass, etc. (The welder for welding special materials can be customized per user's requirements).

- ⦿ Integrated Engineering Design
- ⦿ Adaptive Repair Process Package
- ⦿ Dual-Circuit Refrigerant Direct Cooling



STR-HW WELDER FEATURES

Integrated Design of the Complete Set Ensures Higher Welding Efficiency
Longer Service Life, and Lower Maintenance Costs

Dual Circuit Refrigerant Direct Cooling Technology

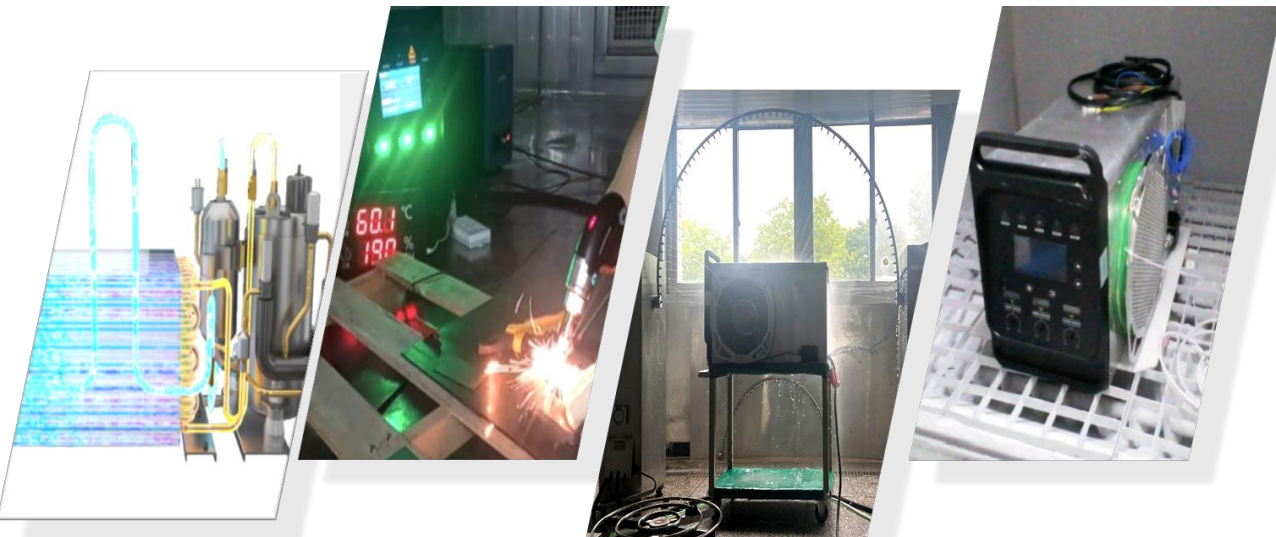
Capable of 24 × 7 continuous welding, thanks to the refrigerant direct cooling system that is developed independently by STR and welding gun insulation material that can ensure long-term use without becoming hot or shutdown.

The operating environment temperature of conventional water-cooled handheld welders is between 5 °C and 50 °C, while that of air-cooled handheld welders is between -10 °C and 35 °C. The refrigerant direct cooling system developed independently by STR ensures the handheld welder good environmental temperature adaptability with an operating temperature ranging from -20 °C to 60 °C.

Excellent temperature control, strong laser output stability, long time operation power fluctuation <1%

Power Compensation Adaptive Correction Technology

Sufficient power margin and power self-compensation technology. The power attenuation is 1/5 of that of conventional lasers



Special Designs of STR-HW welders

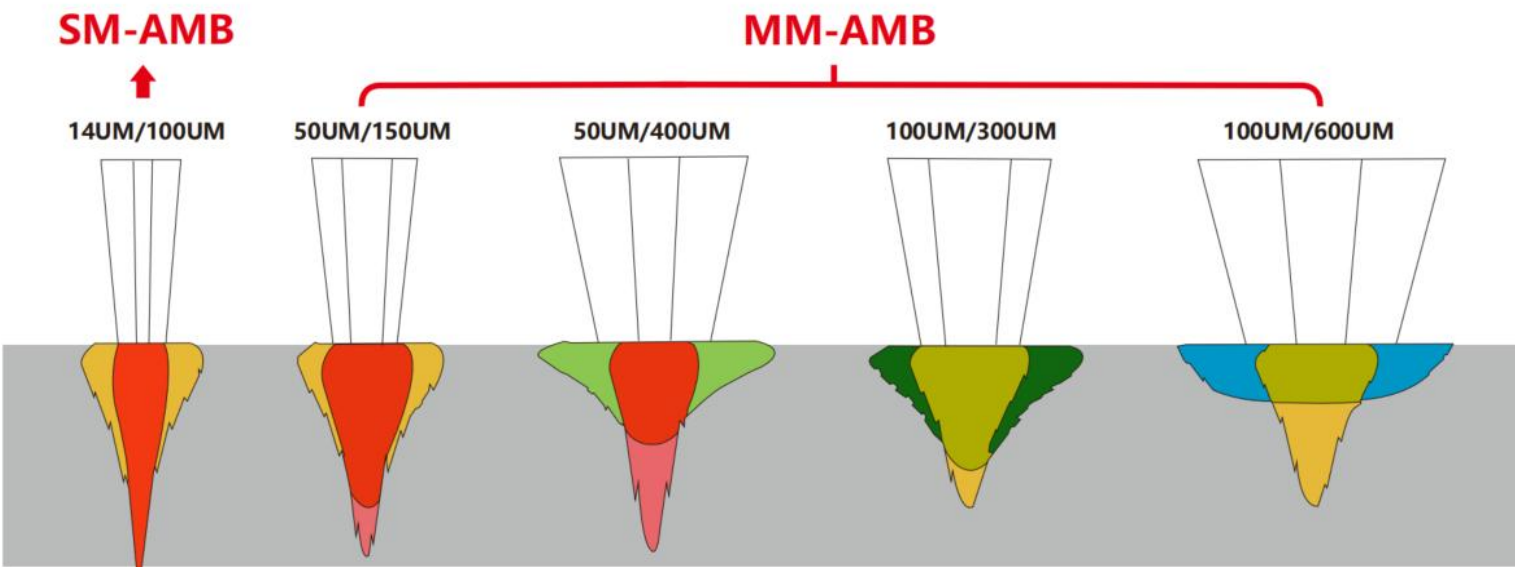


Whole Machine Integrated Design

Integrated design of the whole machine with self-developed welding torch, wire feeders, preset welding process packages, etc., make the operation better. And fully enclosed design makes less failure rate, low loss, longer service life and lower maintenance, etc.

"Small-core diameter" Laser Technology

Small core fibers have better beam quality and higher energy density under the same power.



STRONGEST LASER

Unique Design of Welding Torch

Fully-enclosed and Interface-free Integrated Design

Eliminate the Need to Use QBH or QCS

Reduced energy loss, high transmission efficiency, and good welding effect;
Reduced probability of failure and extended service life;

Uninterrupted normal operation in harsh environments;
Unique shielding gas output passage that can effectively suppress splashes;

Longer fatigue-free welding owing to greatly reduced dimensions and weight,
ergonomic design, comfortable grip due to a handle angle of 120°, and a wire feeding
angle of 50°~60°.



Dimensions: 230 × 270

Net weight < 390g

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Modular Design of Welding Torch

The simplified design welding torch, adopt beam collimation module input , and the fully enclosed design minimize the refraction and scattering of laser energy transmitted between the lenses. Industrial plastic + soft rubber design of the gun handle greatly reduces the torch weight and have better thermal insulation performance.



Self-design electrical components

The drive system has low power consumption and less heat.
Anti-argon arc interference
Integrated electronic control system, good signal transmission
The motor and drive system are highly compatible and have good consistency

Inegrated Cable Technology

Strong pressure resistance, anti-trampling
Resistant to welding slag splash and burns
Resistant to argon arc welding interference



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STR-HW WELDERS ADVANTAGES

An Innovation to Traditional Arc Welding Technology Effectively Improves Welding Efficiency

	STRONGEST LASER handheld laser welding machine	Traditional Arc Welding
Welding quality	High-quality results	Depends on user experience
Distortion & Deformation	High	Very low
Speed	Fast- 3~4X faster than Arc	Average
Heat affected zone	Small	Large
Wobble welding	Yes, up to 8mm	No
Cost	Low	High
Physical Hazards	Low radiation, protective spectacles can filter out strong light	Great harm to welders and high incidence rate of occupational diseases
Environmental	Green and environmentally friendly	A large amount of smoke and dust pollution



TIG Welding

TIG welding is a time-consuming, two-handed welding method that requires experienced and skilled operators. TIG welding generates extremely high heat, resulting in distortion of thin materials, poor cosmetic results, difficulty in welding copper, and limitations in welding metals of varying thicknesses.



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Compared with MIG or TIG, STRONGEST LASER is based on the company ' s independently developed “ small core diameter ” laser technology, adopts a new dual-circuit refrigerant direct cooling system and an integrated structure design, providing customers with higher efficiency, higher melting depth, higher energy saving and more convenient experience.



MIG Welding

MIG welding requires consumable wire, material pre-cleaning, and beveled joints in thick metals to allow for complete penetration. Movement and working angles are limited, and vertical positions are challenging.

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STR-HW Series Technical Parameter

Item	STR-HW-200	STR-HW-350	STR-HW-450	STR-HW-550	STR-HW-550Pro	Master X 80
Rated input power spply	Single phase220V					Three phase 380V
Input power frequency	50/60 Hz					
Laser power	700W	900W	1200W	1500W	2000W	3000W
Power consumption	2.45kW/h	3.25kW/h	3.8kW/h	4.95kW/h	7kW/h	10kW/h
Fiber Laser diameter	20um			14um		20um
Welding speed	20-200 cm/min					20-250cm/min
Cooling mode	Dual-circuit refrigerant direct cooling					
Working temperature	-30~60					
Working humidity	0~90%					
Dimensions	675×310×580mm		673×310×605mm		863x410x724mm	
Product weight	38kg	39kg	43kg	45kg	70kg	
Applicable wire diameter	0.8/1.0/1.2mm		0.8/1.0/1.2/1.6/2.0/2.5mm			
Pre-set process packages	16	24	30	40	40	50
Customizable process packages	20	20	20	20	20	20
Output mode	Integrated armored cable+welding torch					
Armored cable length	5/10/15/20m (Customizable)					5/10m
Welding mode	(Spot welding/Continuous spot weding/Pulse welding/Continuous welding)					With cleaning function

Welding Penetration (Single side)

Model No.	Aluminum	Stainless Steel	Galvanized Sheet	Carton Steel	Brass
MASER X80	<10mm	<10mm	<10mm	<10mm	<6mm
ST-HW-550Pro	<6mm	<7mm	<7mm	<7mm	<7mm
STR-HW-550	<5mm	<6mm	<6mm	<6mm	<3mm
STR-HW-450	<4mm	<4mm	<4mm	<4mm	<2mm
STR-HW-350	<3mm	<3mm	<3mm	<3mm	<2mm
STR-HW-200	<2mm	<2.8mm	<2.8mm	<2.8mm	2mm

Welding applications

After accurately and effectively presetting the process package of the welder, the wire feeder can achieve real-time linkage with the weld base unit. Welding parameters can be quickly and intelligently selected and automatically matching wire feeding speed without manual debugging. Even novices can easily and efficiently weld high-quality welded joints that achieve ideal penetration.

Applications

Suitable for welding various metals, including but not limited to aluminum, stainless steel, carbon steel, galvanized sheet, brass, etc.



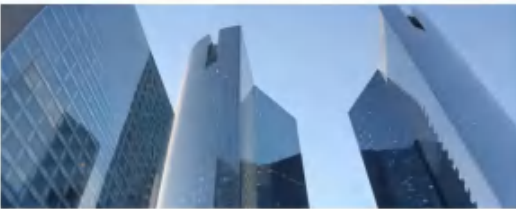
Hardware processing



Home appliance



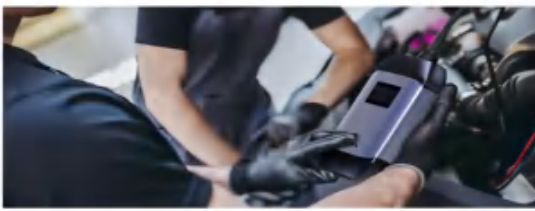
Automotive body processing



Construction and pipeline processing



Sheet metal processing



Equipment maintenance



Aviation space and transportation



Advertising and other applications

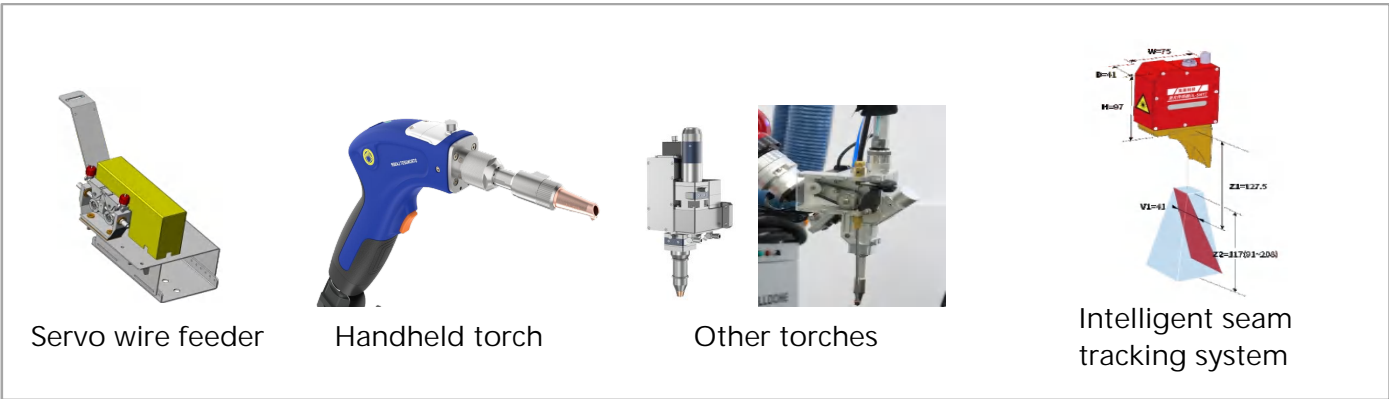
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Trolley



Automatic Laser Welding Solutions



Standard Package

Laser welder x 1; Wire feeder x 1; Accessory package x 1



More options of STR-Wire Feeder

Items	STR-WF00C	STR-WF00B	STR-WF00D
Wire feed tube length	3M / 5M		
Control interfaces	Control cable		
Compatible wire diameter	0.8/1.2/1.6/2.0mm		1/1.2/1.6/2.0mm
Welding wire spool weight	5/7.5/15/20 kgs		
Compatible wire materials	Stainless steel/Carbon steel/Aluminum alloy		
Power supply	220V 50Hz/60Hz	220V 50Hz/60Hz or Power supply by welding machine	220V 50Hz/60Hz
Motor Power	85W(24V, 3.5A)	85W(24V, 3.5A)	130W(24V, 5.5A)
Wire feeding speed	20-600 cm/min	20-600 cm/min	25-150 cm/min
Maximum allowable wire spool diameter	270mm	300mm	300mm
Wire feed mode	Single feed mode	Single feed mode	Single/Double feed mode
Overall dimensions	585×265×457	510x290x425	490x390x390
Wire feeder weight	18kgs	12kgs	20kgs
Pictures			

Standard accessories package

Standard Accessory Package (STR-K20 Fast Coupling)				
No.	Name	Qty.	Picture	Remark
Accessory box	Protective window	10 pcs		10 pcs protective windows+ 1pc protective window cover
	Focusing lens	2 pcs		Already installed 1 with torch
	Copper nozzle	19 pcs		7 types nozzles (0.8,1.0,1.2,1.6mm)
	Cutting nozzle	1 pc		For cutting
	Wire feeding copper nozzle	4 pcs		0.8,1.0,1.2,1.6mm for each
	Fast coupling	1 pc		
	Wire feeding clamping connector	1 pc		
	Hand screw	1 pc		M4
	Screw	2 pcs		M4
	Allen wrench	1 pc		2mm
	O-ring	6 pcs		φ17.1x1.6
	Spring seal	3 pcs		φ20.5xφ16x2.5
Welding machine	Gloves	1 pair		
	Goggle	1 pc		
	Safety claming cable	1 pc		10M
	Wire feeding control cable	1 pc		5M
	Power cable	1pc		5M
Wire feeder	Wire feeding tube	2 pcs		5M spring tube for wire 0.8-2.0mm)-carbon steel, stainless steel 5M graphite tube for wire q0.8-2.0mm)-aluminum
	Power cable	1 pc		5M
	Wire feeding wheel	4 sets		0.8-1.0V installed(2pcs/set) Additional 1.2V-1.6V Suitable for carbon steel, stainlesssteel 0.8U-1.0U,1.2U-1.6U Suitable for aluminum (4pcs/set)