



Mach

SERIES
Fiber Laser cutting Machine

Intelligent Fiber Laser Equipment

PRODUCT RECOMMENDATION

Han' s Songu Company Info

Suzhou Han's Songu Intelligent Equipment Co.,Ltd. a subsidiary of Shenzhen Han's Laser Technology Co., Ltd(stock code:002008), locate in Taicang, Suzhou, close to Shanghai, is a high-tech enterprise which integrates laser, precision machinery, numerical control technology and modernization management system. Songu Intelligent Equipment focus on high-end, high-power 2D laser cutter, 3D laser cutting/welding system, advanced automatic metal-tube laser cutter and offer package automation solution.

The Plant one has 10,000m² production floor area and 1000m² showroom, Plant two will have 60,000m², which is under preparation.

With the advantages of superior high-tech talents, sophisticated modernization management experience, advanced laser technology and a comprehensive quality management system, it has developed a sound R&D, manufacturing, sales and service team to offer high-end intelligent laser cutting and welding equipment to domestic and global customers.



QUALIFICATION & CERTIFICATION

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة

Certificate of Compliance

No. 00180327.HSION04
Test Reports no. DEU(18)-03-HI0175, DEU(18)-03-HI017E, DEU(18)-03-2399M

Certificate's Holder: HAN'S SONGU INTELLIGENT EQUIPMENT CO., LTD.
No.189 Changjiang Rd, Taicang Port Economic & Technological Development Zone, Suzhou, Jiangsu, China

Certification ECM Mark: 

Product: MACH/WIND series Laser Cutting Machine
Trade Mark: **SONGU**
Model(s): MACH6025, MACH4020, MACH3015, WIND6025, WIND4020, WIND3015

Verification to: Standard:
EN ISO 12100:2010,
EN 60204-1:2006+A1:2009+AC:2010,
EN ISO 13849-1:2015, EN 60825-1:2014,
EN 55032:2012+AC:2013, EN 61000-3-2:2014,
EN 61000-3-3:2013, EN 55024:2010
related to CE Directives:
2006/42/EC (Machinery)
2014/35/EU (Low Voltage)
2014/30/EU (Electromagnetic Compatibility)

Remark: The product(s) has been verified on a voluntary basis. The product(s) fulfill(s) the requirements of the Certification mark of ECM, (in reference to the above listed Standards). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation after its release and its use. The regulation can be found at www.entecma.it. This Certificate of Compliance can be checked for validity at www.entecma.it.
This verification doesn't imply assessment of the production of the product(s).
Additional information, clarification about the CE Marking:
We attest that a TCF for the CE Marking process is in place. Whereas the Manufacturer is Responsible to start the CE Marking Certification Procedure and to perform all the necessary activities, as required by the Directive before placing the CE Mark on the product(s).

CE

Date of Issue: 30 March 2018 Expiry date: 24 March 2023

Chief Manager: *Michele Morini* Deputy Manager: *Amanda Payne*

Ente Certificazione Macchine Srl
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Each product from Han's Songu Intelligent Equipment is strictly examined according to ISO9001, CE standards before put it into the market.

Primary business of SONGU

2D high power laser cutter



Hybrid laser cutter for Sheet & Tube



3D robot laser cutter



Automatic tube laser cutter



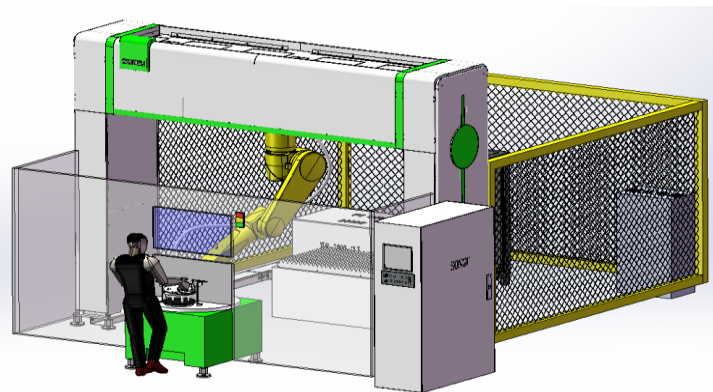
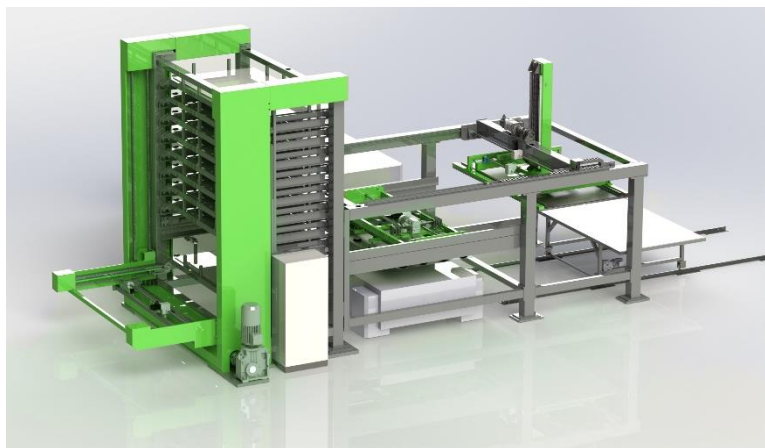
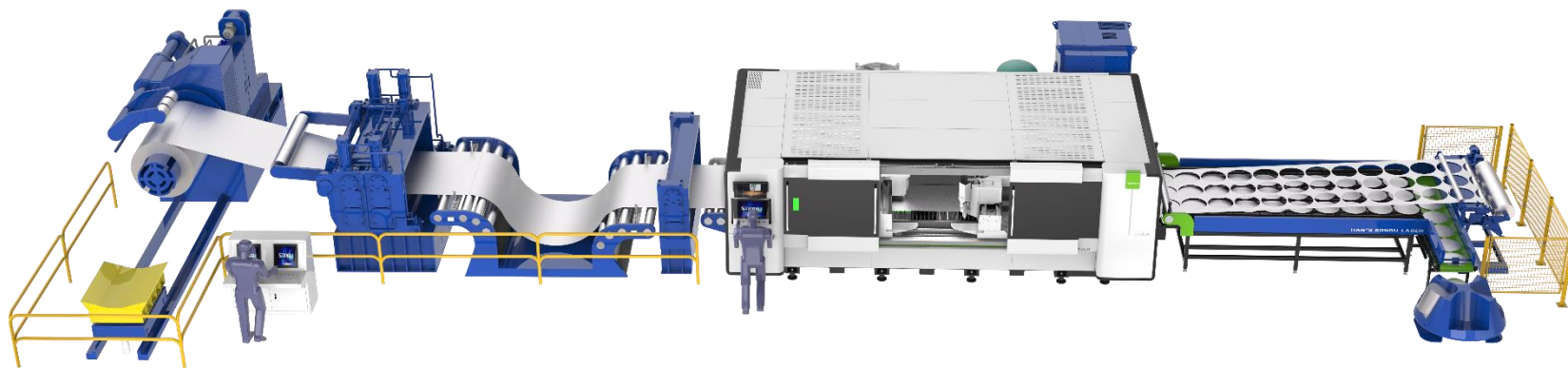
3D robot welding machine



3D laser processing system



Customized Laser Solution & Automation



Model Explanation



MACH

4020

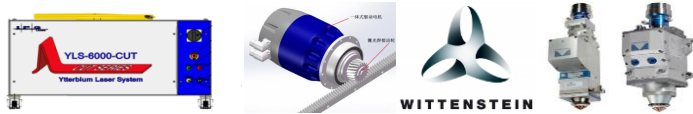
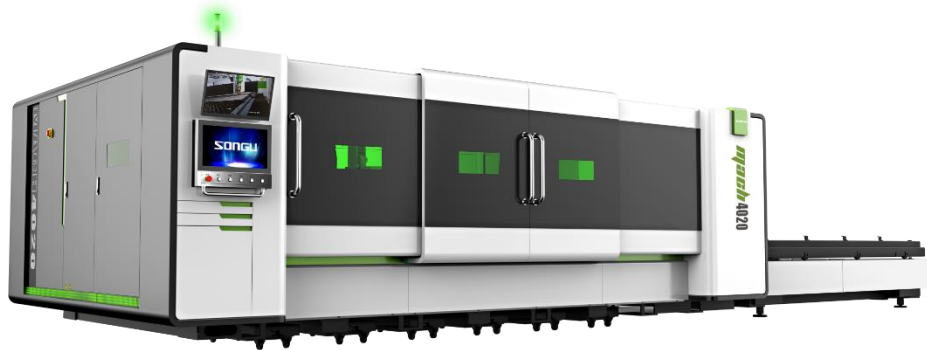
A

Version: A

Working size: 4m x 2m

Series: MACH

MACH_Product info



About product:

Mach 3015/4020/ 6025 are our high-end fiber cutting series machines:

- Fully enclosed protection cover, comply with European safety standard;
- ALPHA direct servo motors integrates with gearhead(two sides drive system), high precision, high efficiency.
- All Germany high configuration, stable, robust and durable.
- Side door open, easy access.
- Laser application parameterize design, equip with Remote Monitoring and Remote Assistance functions, more user-friendly.
- Low gas cost by precision servo gas control, low running cost.

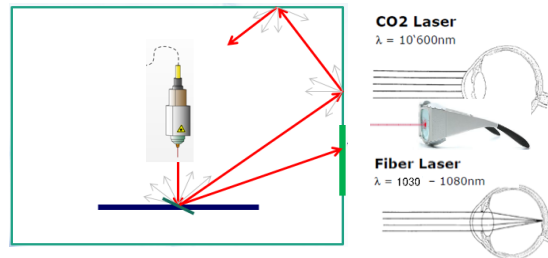
MACH_Product info



1. Safety & beauty

- Protection cover with laser radiation free watching window;
- Professional industrial design, easy reach the operation area

Customer benefit: **Safety and robust**



1. Fiber laser wavelength close to visible light, radiation danger is 50 times higher than CO2 laser hazards;
2. High power fiber laser beam can though the retina and hurt crystalline lens and eyes;
3. The front door is on the Y axis, easy for operation.

MACH_Product info



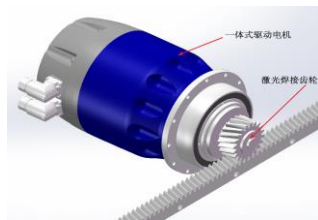
2. Fast speed and high efficiency

- Max positioning speed 240m /min , max acceleration speed 2.4G;
- Die-cast aviation aluminum gantry, high rigidity welded body improve the gantry strength and much lighter, enjoy good stability & durability;
- Scan cutting function available, cutting path optimization automatically;
- Recommend to equip with 6000W laser source, to achieve fast cutting speed for thick plate
- Big cutting area (4000*2000mm) enjoy better output efficiency optimization.

Common transmission system



Direct drive transmission system



Efficiency	↗	120%
Stability	↗	200%
Response speed	↘	100%
Accumulate error	↘	80%

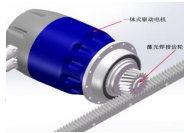
Feature details:



3. Stability & Robustness

- Fiber technology is already mature with good stability;
- Integrated servo motor & gearhead, small accumulative error, good synchronization, less fault rate, good robustness.
- Hydraulic lifting shuttle tables, less fault rate, good stability;
- Core transmission parts are imported from German, ensure the good quality.

Customer benefits: Safe to use, reliable.



Feature details:



4. Low running cost

- Fiber laser has better Industry-leading wall-plug efficiency (around 40%), less power consumption;
- Automatic energy saving mode: if the machine stop over 5 minutes, the equipment would stay in the resting state;
- Laser source has no laser gas, the running cost is much lower than Co2 laser;
- Servo-control assisted gas, to reduce gas consumption during the movement without cutting, to save cost;



DISK laser $27\text{kW/h} \times 1.1\text{RMB/h} \times 3600\text{ h/y} = 106,920\text{ RMB/year}$

Fiber laser $18\text{kW/h} \times 1.1\text{RMB/h} \times 3600\text{ h/y} = 71,280\text{ RMB/year}$

No-servo control 10mm SS (N2) cost: 180 RMB/h

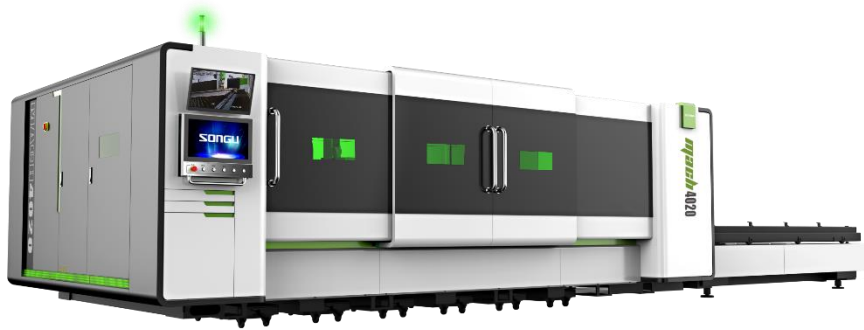
Servo-control method 10mm SS (N2) cost: 150 RMB/h

$(180-150)\text{ RMB/h} \times 12\text{h} \times 300\text{Days} = 108,000\text{RMB}$

power cost save:
35,700 RMB/year
(\$5500/year)

Gas cost save:
108,000 RMB/year
(\$17000usd/year)

MACH_Product info



5. Easy operation, intelligent

- Side door open, easy access;
- With remote monitoring, remote assistance function, intelligent and convenient;
- Beckhoff touch screen CNC control system, easy for operation;
- Hand controller is available, easy for operation;
- Automatic optical path adaptive system and lens inspection function available more intelligent;
- Servo-control assisted gas, no need manual adjust gas pressure, intelligent and convenient for operator

Customer benefits: **Easy operation and more intelligent**

Features details:



Optional

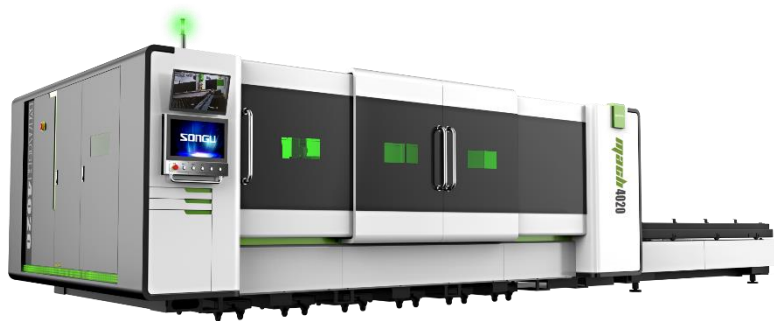
6. Eco & energy saving

- Equip with dust filtration system, comply with the waste gas discharge standards;
- Fully enclosed protection cover, comply with safety requirement;
- Good soundproof effect, machine running with less noise.

Customer benefits: Eco & safety

Working parameter

Parameters	3015	4020	6025
Working size	3000X1500mm	4000X2000mm	6000 x 2500 mm
Laser power	4000W/6000W/8000W/10000W		
Transmission	Integrated servo motor & gearhead, two sides drive		
Loading method	Automatic hydraulic shuttle platform		
Positioning speed(Max)	240 m/min		
Acceleration(Max)	2.4G		
Positioning accuracy	± 0.05mm (VDI/DGQ 3441)		
Repositioning accuracy	± 0.03mm (VDI/DGQ 3441)		
Machine Power	18 kw	23 kw	25 kw
Weight (body)	13000Kg	16500Kg	21000kg
Dimension	9800x3000x2200 mm	12000x3500x2200mm	15500*4000*2300mm



Core part-IPG laser source

- It has a super compact design with the laser housed in a hermetically sealed cabinet;
 - Maintenance-free Operation,
 - A dehumidifier is installed within the cabinet to ensure optimal internal humidity;
 - Industry-leading wall-plug efficiency our lasers are known for has reached over 40%
- ;
- The electrical cost savings add up to many tens of thousands of dollars over lifetime of a laser;
 - Wide variety of fiber delivery options (50, 100, 150 or 200 μm) core diameter;
 - record reliability and maintenance-free operation;
 - Hot redundancy ensures 100% up time with no change in power;
 - Compact Rugged Design



IPG-YLR/YLS Specification	YLR/YLS
Laser mode	CW, QCW
Wavelength	1070-1080nm
Standard output laser power	4000~20000W
Laser beam quality	$\leq 4\text{mm} \cdot \text{mrad}$
Modulation speed	5kHz
Delivery fiber core diameter	$\geq 50\mu\text{m}$
Output stability	$\pm 2\%$
Power supply	400-460V/3P+PE@50-60Hz

Cutting Applications



SS-Brass-MS-AL-CS



Elevator



Electric cabinet

Configuration

	No.	Item	Conf.	Spec.	Qty	Remarks
Main machine	1	Body	●	4000 x 2000 mm / 6000 X2500mm	1	
	2	CNC controller	●	TwinCat	1	Beckhoff
	3	Laser source	●	4000W/6000W/8000W/10000W	1	IPG
	4	Auto-focus cutting head	●	Pro cutter	1	Precitec
	5	Automatic hydraulic shuttle platform	●	Hydraulic lifting	1	
	6	Protection cover	●	Fiber laser protection standards	1	Safety interlocking device, Fiber laser radiation-proof acrylic
	7	Servo-proportional valve	●	LGR 3-gas switch	1	Hoerbiger
	8	Vision monitor	○			
	9	Eagle eye identification	○			
	10	Software	●		1	Automatic programming, layout, nesting, laser path optimization
Auxiliary	11	Chiller	●		1	TONGFEI
	12	Refrigeration dryer	●		1	Imported
	13	Dust collector	○		1	Donaldson (optional)
	14	Air compressor	○		1	Atlas (optional)

● : standard ○ : optional

Production Plants



QUALITY ENDORSE **EXCELLENT**
INTELLIGENT MANUFACTURING

Production Quality Control

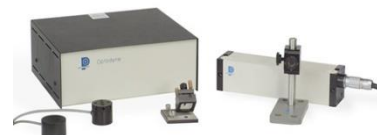


High precision Coordinate detector

Full Process Rigorous Quality Control



OPTODYNE Laser Measure Equipment (USA)



Bidirectional Precision Autocollimator



Detail Management for Workflow

Quality Control Process

IQC



▶ Inspect the spare parts according to strict acceptance criteria

Strict quality control for every step of the manufacturing according to Operating Instructions



IPQC/
PQC

FQC

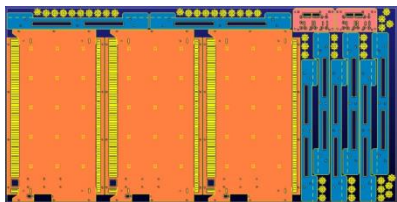


▶ Before Product storage, there will be a comprehensive inspection according to Acceptance Criteria and Production Orders to guarantee the control result.

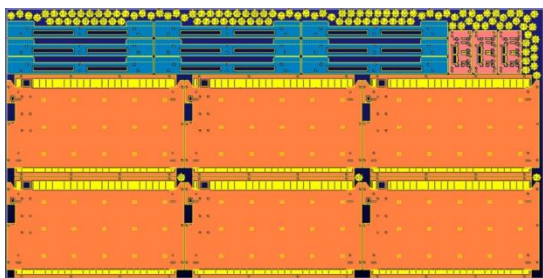
2D laser cutting Samples



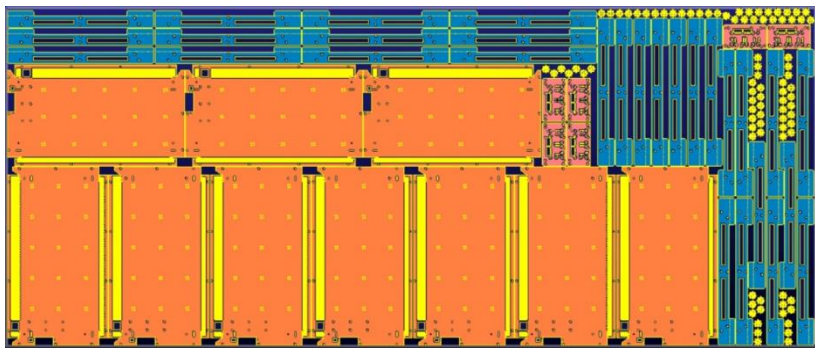
Available working area



3000x1500mm



4000x2000mm



6000x2500mm

6500x2500mm

8000x2500mm

18000x4600mm

25000x4000mm

Bigger size

customization welcomed

Application



Service Support



30 service vehicles in China



24 hours online service



Best CRM Records



Global delivery

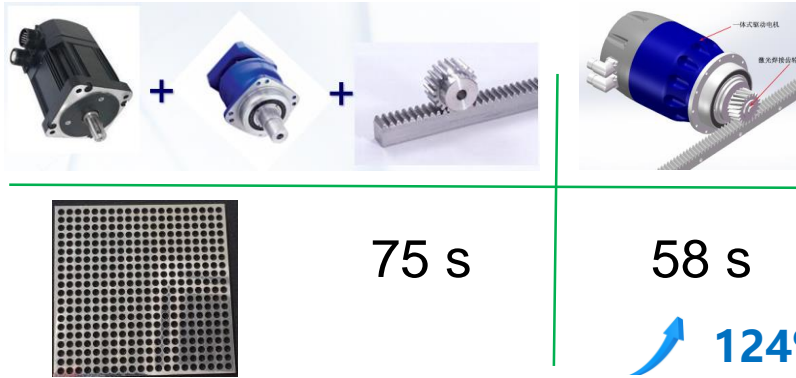


Local Installation available



5 days free training in factory

Cutting compare 1:



Fast acceleration speed,
better efficiency

$\$65/h \times 12h \times 300 \text{ Days} = \$234,000 \text{ USD}$

$\$65/h \times 12h \times 300 \text{ Days} \times 1.24 = \$290,160 \text{ USD}$

+ \$56,160
USD/year

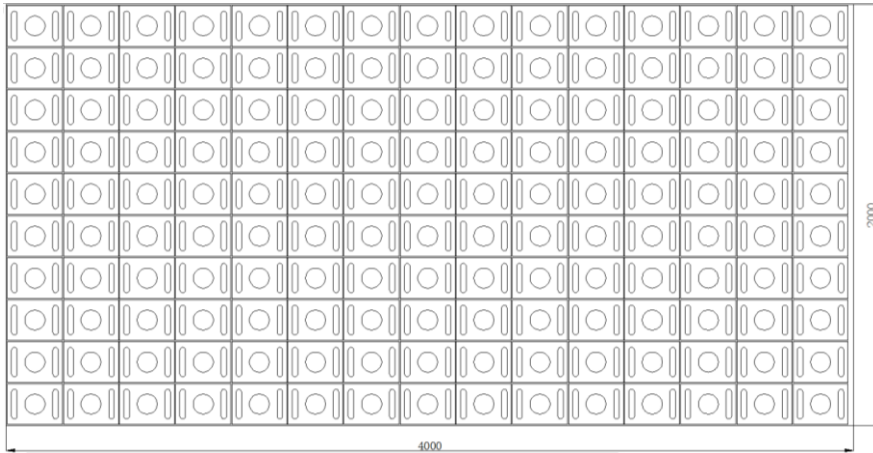
Capacity: EXTRA \$56,160 USD/year

Customer benefits:

More precise product, more job-work orders, more profit.

Cutting compare 2:

Case 1:
10mm SS, 150 pcs, total contour 600 pcs, cutting length: 274.167m



	4kw	6kw	
Cutting efficiency:	152 mins	81 mins	47%
Power consumption:	54 Kw.h	39 Kw.h	28%
Total gas consumption:	14x152 mins	14x81mins	47%

Fast cutting speed, better capacity per hour

Laser power	Cutting speed	Piercing time	Gas pressure	Power	Time	Power consumption
4kw	1 m/min	2.4 s	14 bar	18 Kw	152 mins	54 Kw.h
6kw	2.7 m/min	0.9 s	14 bar	25 Kw	81 mins	39 Kw.h

600RMB/h X 12h X 300Days = 2,160,000RMB	
600RMB/h X 12h X 300Days X 1.47 = 3,175,200RMB	+ 1,015,200 RMB/year
Power consumption: Power cost save: 23,300 RMB/year 21kw/h X 12h X 300Days X 1.1RMB X 0.28 = 23,300RMB	- 23,300 RMB/year
Gas consumption: Gas cost save: 253,800 RMB/年 150RMB/h X 12h X 300Days X 0.47 = 253,800RMB	- 253,800 RMB/year

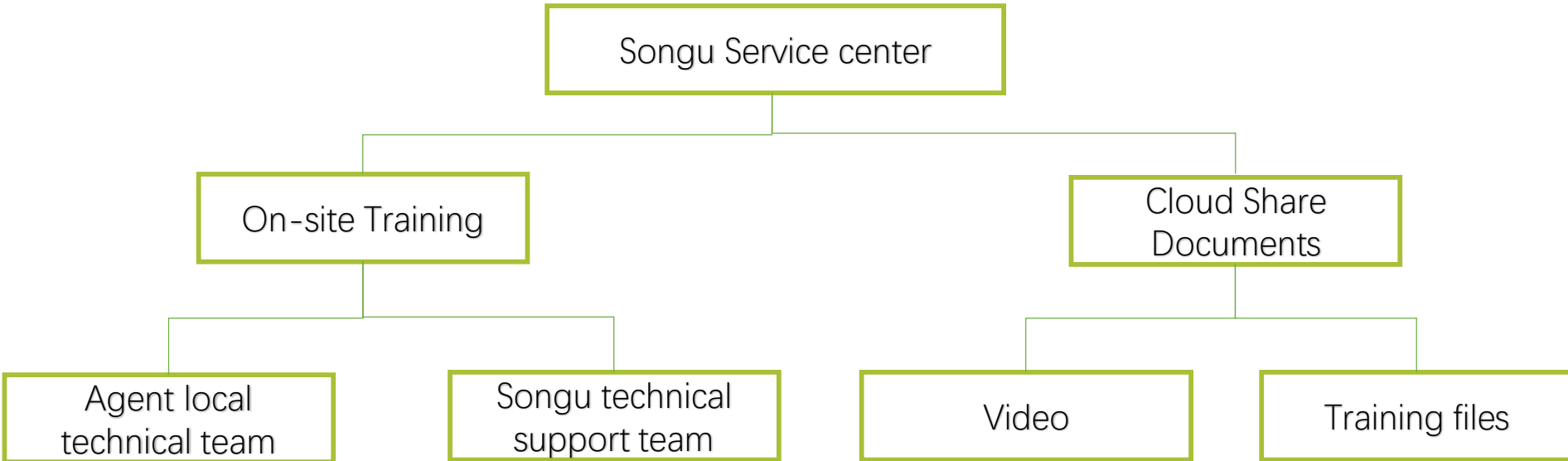
SERVICE

Technical strength: demand research, technical Seminar, laser application testing and samplings service;

Technicians support: 168 domestic technicians, 22 oversea technicians, 5 online engineers, 8:30am~22:30pm online support;

Nearest service: 50 sales & service domestic offices, and 38 oversea agents;

Free Training: 5 days in factory free training (accommodation and food free)



Cooperation Win-win Appreciation Sharing

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