

# ULTRA-HIGH-SPEED TUBE LASER CUTTING MACHINE



## TS

1500-4000W

Technical Parameters	TS65 II	TS80
Power	1500-4000W	1500-4000W
Max. Rotating Speed of Chucks	120r/min	120r/min
Max. No-load Speed	120r/min	120r/min
Max. Acceleration	1.2G	1.2G
X/Y-axis Positioning Accuracy	±0.03mm/m	±0.03mm/m
X/Y-axis Repositioning Accuracy	±0.03mm	±0.03mm
Min. Length of Tailing	130mm	130mm
Max. Cutting Length of Tube	6500mm	8000mm
Max. Cutting Capacity	Round tube $\Phi$ 12- $\Phi$ 273mm Square and rectangular tube $\square$ 12-200mm	Round tube $\Phi$ 12- $\Phi$ 273mm Square and rectangular tube $\square$ 12-200mm
Max. Weight of Single Tube	200kg	200kg
Overall Dimensions (without Loading Racks) (L*W*H)	12400*3100*2500mm	14000*3000*2600mm



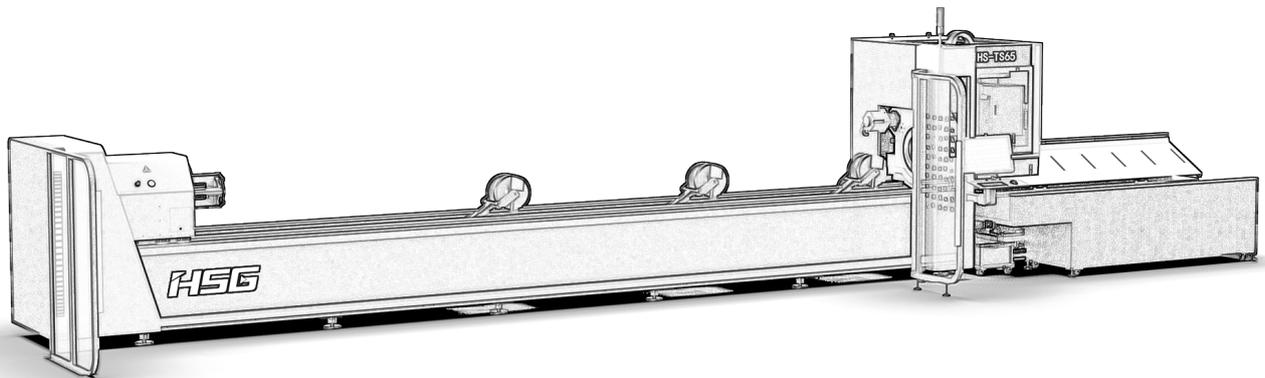
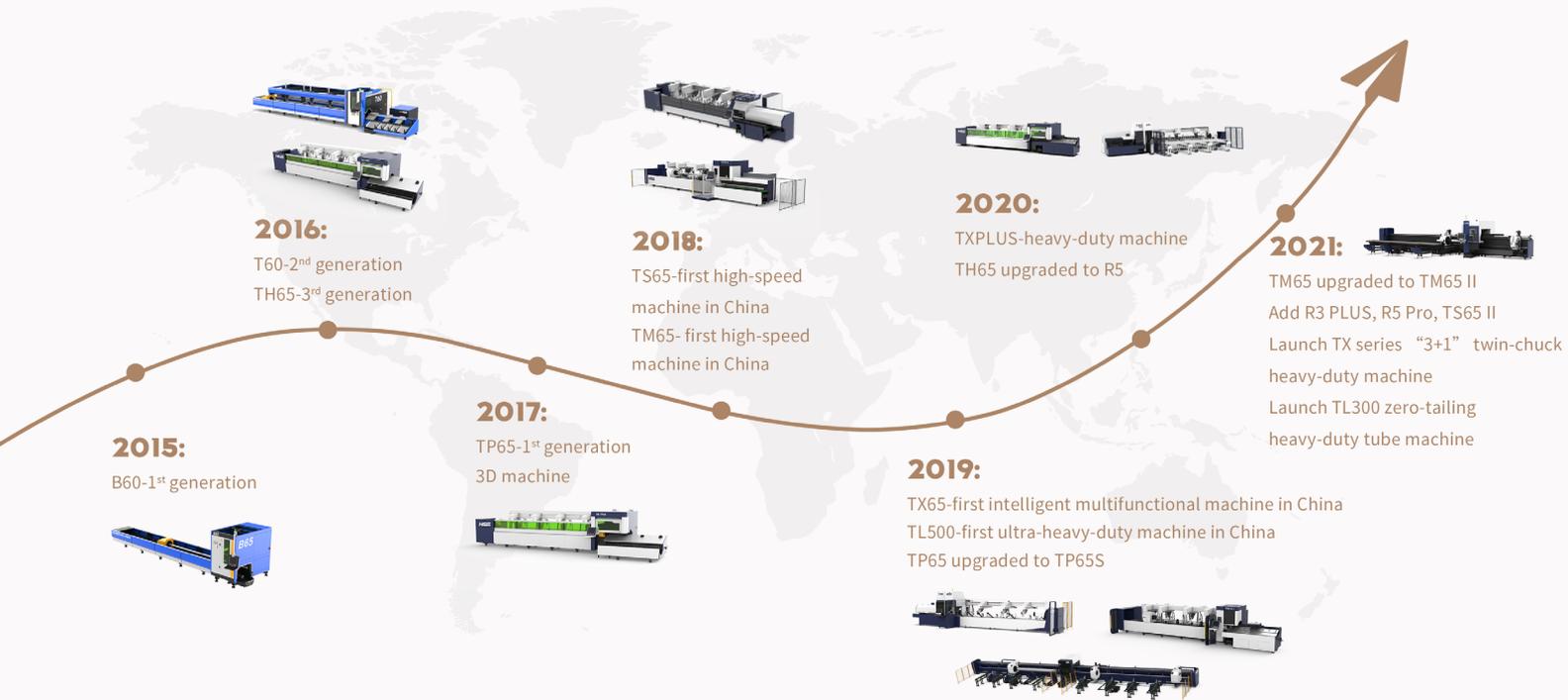
## WHY CHOOSE TS?

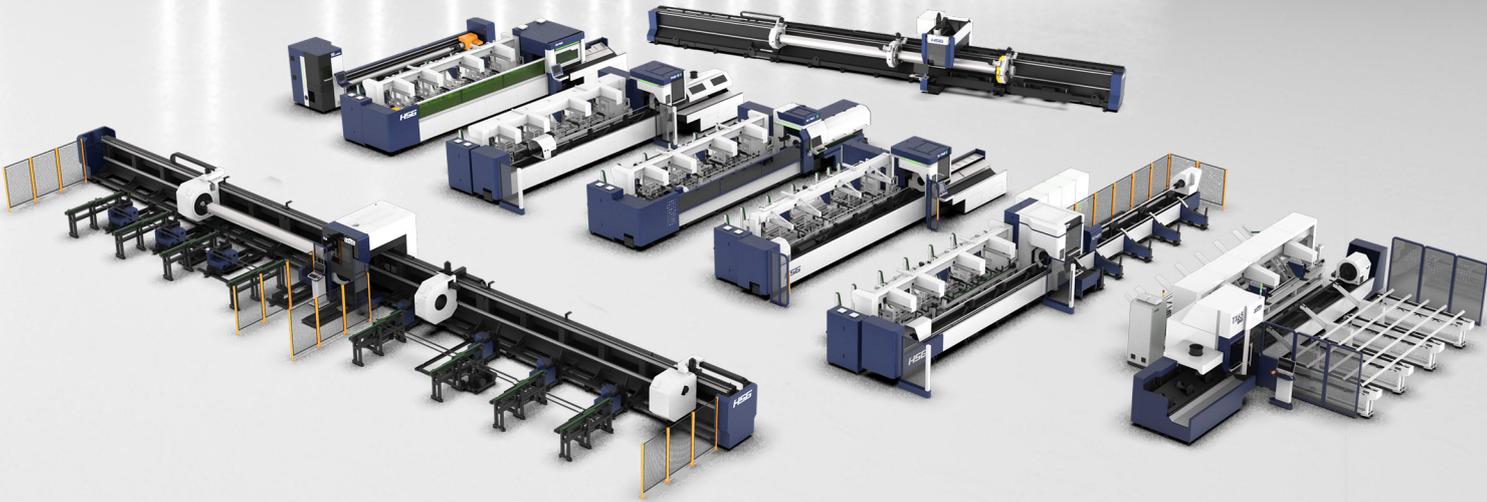
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- 📦 One of our high-end tube laser cutting machines
- 📦 Two different models for selection
- 📦 High automation and intelligentization, with less labor force and labor costs
- 📦 Stress on control stability, work fluency and operation convenience



# DEVELOPMENT HISTORY





## OUR CURRENT TUBE LASER CUTTING MACHINES



Many different models



High degree of automation



Real 0 tailing

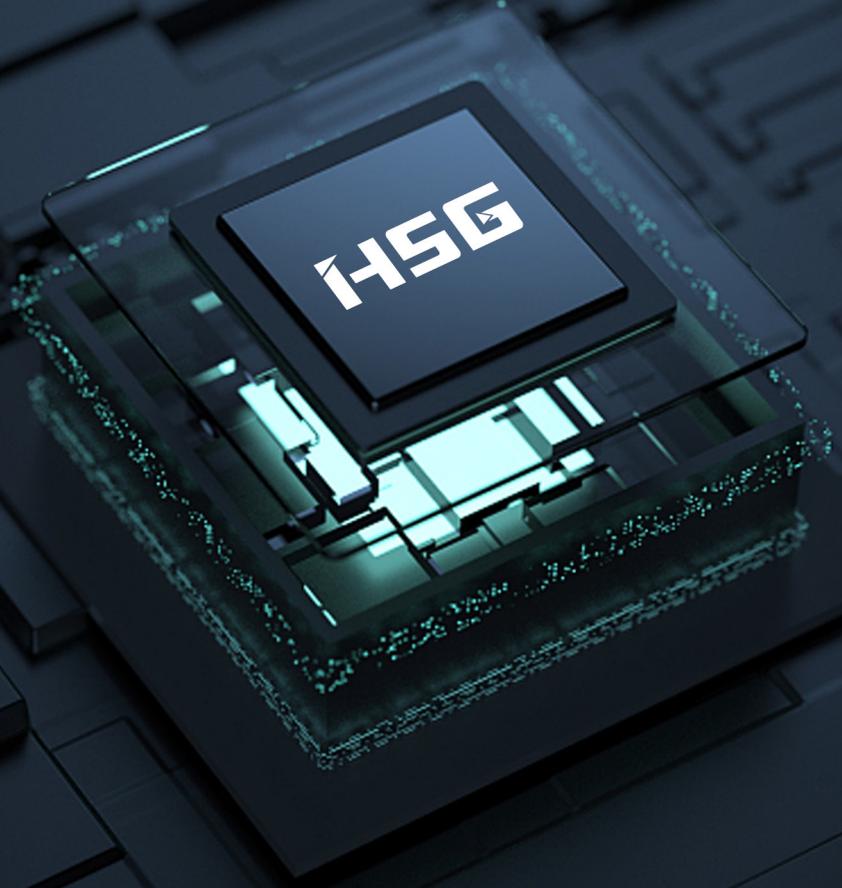


Balance tiny tubes (50kg) and ultra-heavy (1500kg+) tubes well

	Model	Max. Range of Chucks	Max. Weight of Single Tube	Min. Tailing Length	Bevel Cutting
Economical	R3/R3 PLUS	R3: $\Phi$ 20-219MM R3 PLUS: $\Phi$ 20-325MM	R3: 100KG R3 PLUS: 200KG	R3: 85MM R3 PLUS: 110MM	X
	R5/R5 PRO	$\Phi$ 20-254MM	200KG	R5: 190MM R5 PRO: 50MM	X
Professional	TM65/TM65 II	TM65: $\Phi$ 10-100MM TM65 II: $\Phi$ 10-160MM	50KG	TM65: 125MM TM65 II: 50MM	X
	TS	$\Phi$ 12-273MM	200KG	130MM	X
	TPS	$\Phi$ 20-273MM	200KG	220MM	✓
	TX PLUS	$\Phi$ 20-325MM	600KG	80MM	X
	TX PLUS II	$\Phi$ 20-350MM	500KG	130MM	X
Special Applications	TX 12036	$\Phi$ 20-360MM	1200KG	0	X
	TL300	$\Phi$ 20-254MM	300KG	0	X
	TL500 II	$\Phi$ 120-500MM	1200KG	0	X



# OUR FAMILY OF TUBE CUTTING CONTROL SYSTEMS



Year	Generation	Name	Features	Applicable Models
2015	I	HSG-X8800	Stable and reliable	TH65
2016	II	HSG-X8900	Allow functional customization	TS65
2017	III	HSG-X9000 BUS CNC SYSTEM	Upgrade from automation to intellectualization	R3/R3 PLUS, R5/R5 Pro, TM65/TM65 II, TX PLUS
2018	IV	HSG-X9500	Serve subdivided areas	TPS
2019	V	HSG-X9800	Special for four chucks and 0 tailing	TL300, TL500, NEW TX
2020	VI	HSG-XMT	First multi-touch operating system in China	TS (TS65 II, TS80)

# HSG-XMT MULTI-TOUCH OPERATING SYSTEM

- Show tube graphs in real time
- Detect core components and give failure diagnosis
- Remind to maintain machine after expiration
- Self-lubrication of mechanical transmission components
- Analyze machine operational conditions



1 Simple UI design

2 Concise but pleasing page layout

3 Suspension virtual key helper

4 Detail instructions on general functions

☞ XMT, as the sixth generation of our tube control system, can give drastic reduction in programming, operation, production and maintenance processes by its multi-touch control and extremely-simple navigation pages. As thus, operating industrial equipment is as easy as playing a tablet computer.

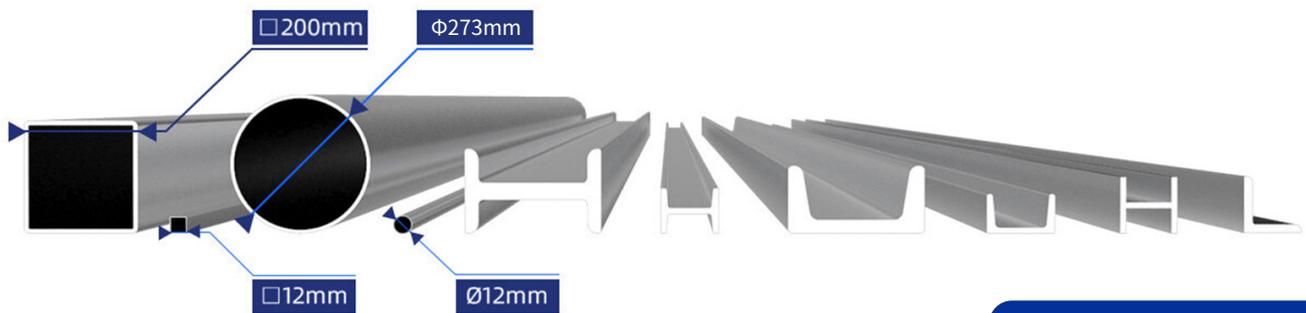


# SIGMATUBE NESTING SOFTWARE --THE BEST ONE FOR THE TIME BEING

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- 🌀 Apply to conventional tubes, profiles and other sectional profiles
- 🌀 Import assembly drawing model for nesting
- 🌀 Build cutting path on model
- 🌀 Auto creation of production reports

# A STRONG PERFORMER IN TUBE CUTTING



- Round tube  $\Phi$ 12-273mm
- Square tube 12\*12-200\*200mm
- Rectangular tube 12-200mm
- Max. weight of single tube 200kg



Wide range of cutting

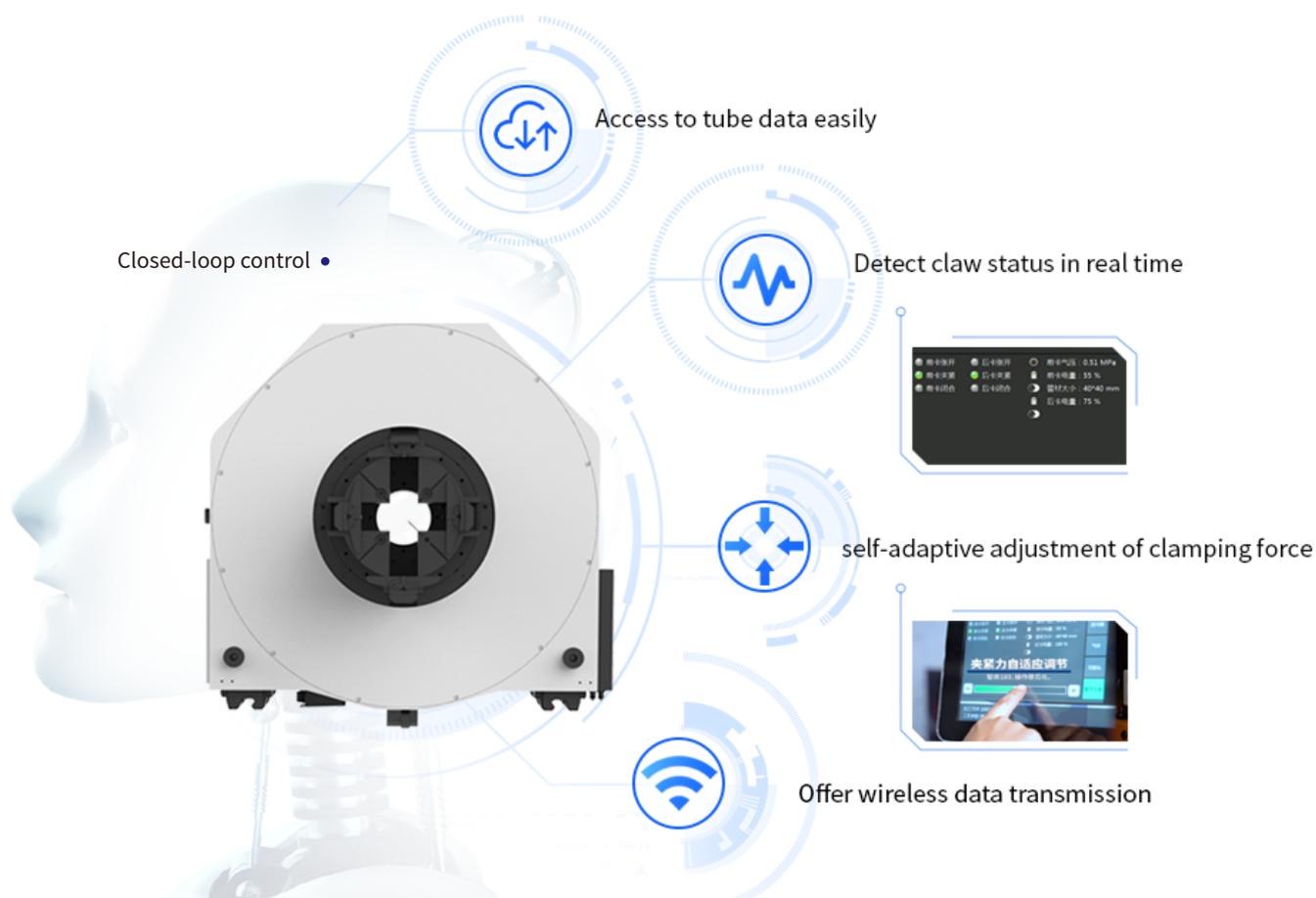


Cut profiles and special-shaped tubes



Cut tubes made of various materials

- Various in shape: round, square and rectangular tubes, and profiles like channel, angle and H-shaped steels, as well as special-shaped tubes incl. triangular, concave, L- and C-shaped tubes
- Various in material type: carbon steel, stainless steel, aluminum alloy, brass, red copper



## INTELLIGENT DIGITAL CHUCKS



Automatic centering



Wide clamping range



Aluminum chucks



Light in weight

- 📏 3 times faster than electric chucks by one-key opening & clamping
- 📏 Stepless adjustment of clamping pressure and self-adaptive adjustment of clamping force
- 📏 No need for changing claws while clamping 10-200mm tubes
- 📏 Stop immediately when no or wrong tube is clamped to minimize processing error rate





Autofocus accuracy  
 $\pm 0.01\text{mm}$



Save cutting gas



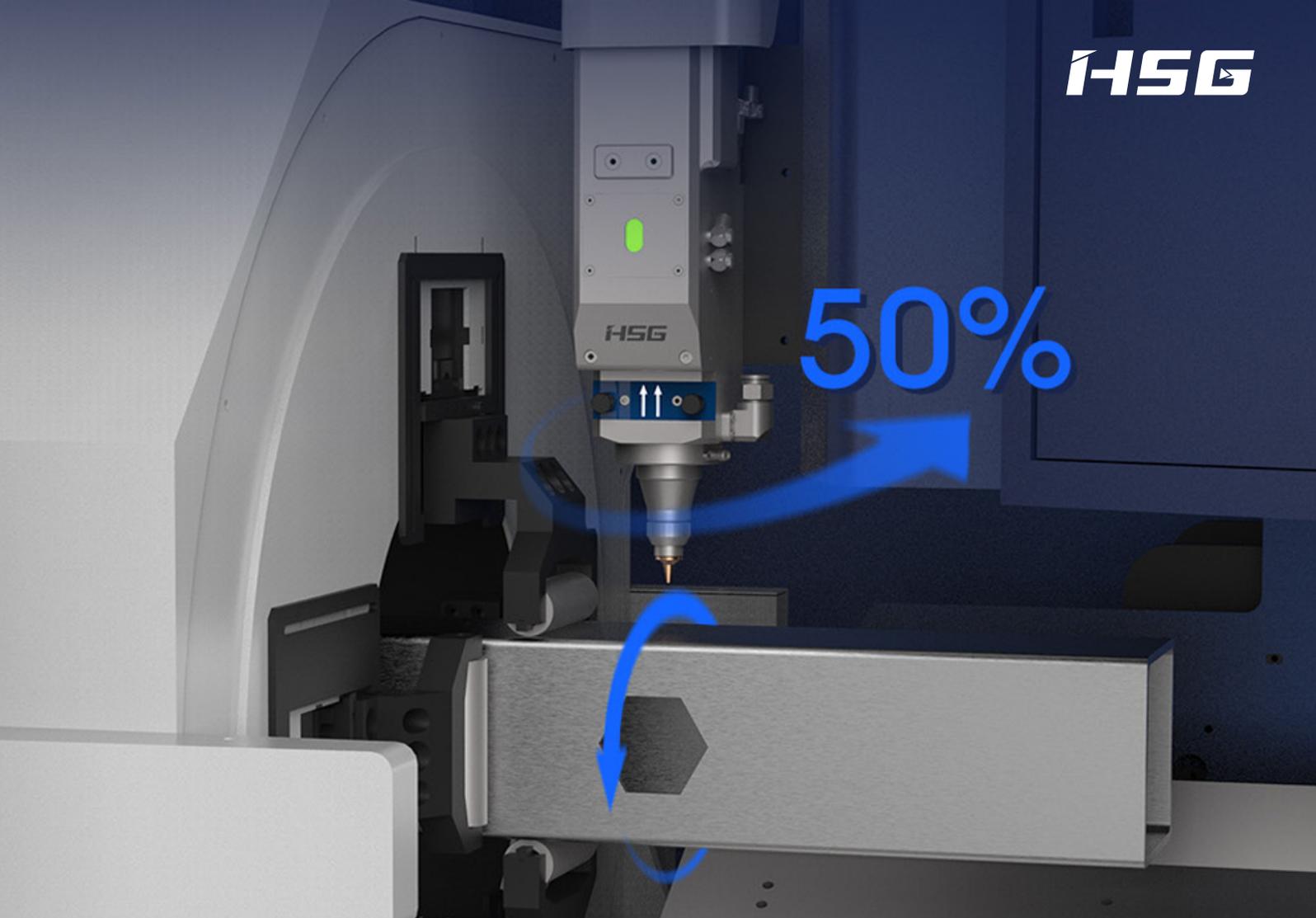
Self-cooling



Dust-proof design

## KLINGE AUTOFOCUS LASER CUTTING HEAD

- Water cooling, dual-path ultrasonic cooling nozzle
- Take accurate control of gas flow for easy cutting with mirror-like surface
- Avoid spark splashing by SS protective tubes
- Fast in piercing and cut tubes in most shapes and materials
- Prevent dust from transmission parts due to its dust cover on Z axis



## FLYING CUTTING, SPACE LEAPFROG



Minimize moving path



Improve efficiency by 50%+

- 📄 Patent No. ZL201810158585.8
- 📄 Minimize moving route of cutting head to the extreme
- 📄 No repeated lifting and falling
- 📄 Improve processing efficiency by 50%+ especially while cutting square tubes





## INTELLIGENT PRODUCTION SYSTEM

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### 📦 Full-/Semi-automatic Loading Device (Optional)

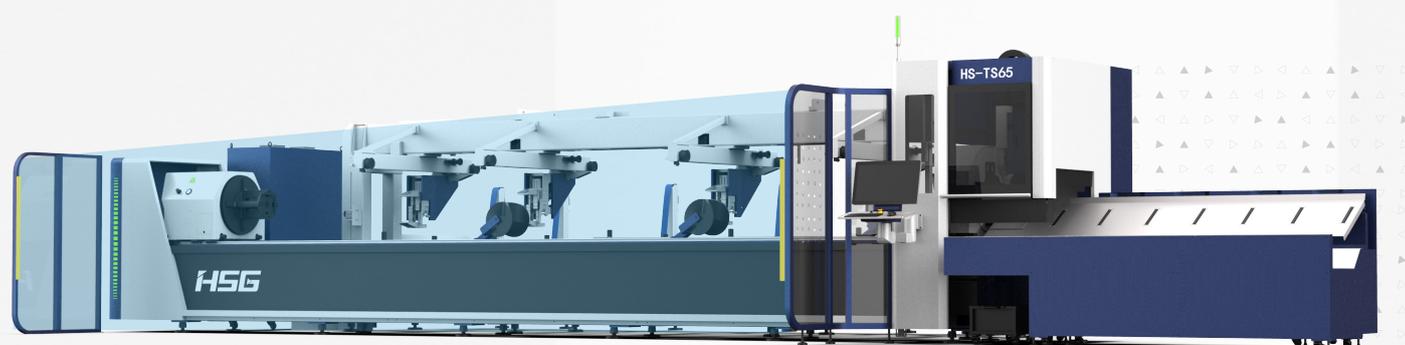
Users can choose different full-/semi-automatic loading devices according to their material specifications, as thus, reducing labor intensity, saving labor costs and improving overall efficiency.

### 📦 Unloading Device (Standard)

Single row of jack catches is provided for all users. They can adjust unloading height by hands to satisfy demands of different kinds of tubes.

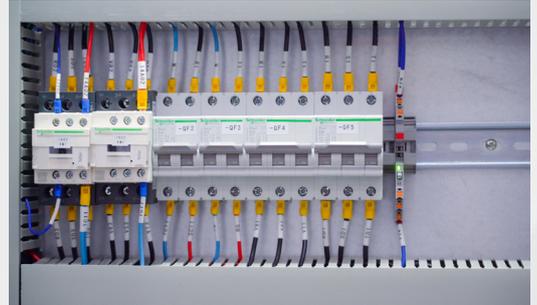
# SAFETY LIGHT CURTAIN

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- Machine will stop instantly when any intruder is detected
- Protect both workers and the machine well
- Make sure of overall cutting speed by preventing the machine from frequent pause

# STANDARD WIRING

**CE**CE-compliant  
electrical cabinetNo worry about  
wiring errorMuch safer in  
operation

- 🔗 The integrated electrical cabinet caters to EU CE standards and separates weak current from strong current area to prevent electromagnetic interference, dust entry and possible ignition.
- 🔗 External control elements are equipped with Phoenix pluggable fail-safe wiring terminal.
- 🔗 Every line matches with its own code. The optical fiber line, gas hose, water hose, strong current line and weak current line in wiring duct are arranged in different zones to prevent signal interference and frictional loss among lines.

## HIGH-STANDARD PACKAGE



Meet ocean shipping criteria



\$1500 higher than other peers in packaging expenses

- 📦 To keep entire machine safe during long-distance sea transport, we adopt high-standard package, incl. aluminum foil, metal framework, fumigation wooden case, anti-rust oil+oilpaper, moisture-barrier bag, waterproof plastic film and filling foam.



## FAMOUS-BRAND CORE COMPONENTS



### JAPANESE BRAND

Speed reducer (incl, gear wheels)



### TAIWAN BRANDS

High-precision racks and linear guides



### JAPANESE OR CHINESE BRANDS

High-performance servo motor







# HSG LASER

## Intelligent Manufacturing Changes Future

## HI-TECH ENTERPRISE IN CHINA

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HSG Laser, founded in 2006 as a hi-tech enterprise focusing on R&D, production and sales of laser equipment, is dedicated to serve global customers with intelligent metal forming solutions.



33 patents for  
invention



316 patents  
in total

# SERVE 100+ COUNTRIES AND REGIONS



4

Standardized manufacturing bases in China

80000m<sup>2</sup> +

Total area of production factories

5000+

Annual productivity

3000+

Global sales in 2020

1500+

Employees

170+

R&D personnel

10

Branches/subsidiaries/  
sub-subsidiaries

30+

Service outlets overseas

**R&D**

ACHIEVEMENTS

- \* 3D five-axis bevel cutting technology
- \* P30 ultra-high-power intelligent laser cutting head
- \* Intelligent digital four chucks
- \* Alpha T bus system
- \* HSG-XMT multi-touch operating system



# MACHINES AVAILABLE FOR SALE

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-  Sheet metal laser cutting machines
-  Sheet & tube laser cutting machines
-  Tube metal laser cutting machines
-  Bending machines
-  Welding machine
-  Automation devices



# STRICT IN QUALITY CONTROL FLOW

IN PURSUIT OF  
QUALITY  
EXCELLENCE



STEP1  
COLORIMETER



STEP2  
FILM THICKNESS GAUGE



STEP5  
COLLIMATOR  
(beam)



STEP4  
HARDNESS TESTER



STEP3  
2D CATHETOMETER



STEP6  
COLLIMATOR  
(bed)



STEP7  
INTERFEROMETER

## PROFESSIONAL AFTER-SALES SERVICE



### One-year Warranty

All unit components are warranted for 1-year, except items listed in the Exclusions section below. Our after-sales engineer or local agent will supply new or remanufactured component of equal or better quality to replace the failed one.

### Exclusions

Unit components subjected to normal wear during the Warranty Period are not covered by warranty, including:

1. Nozzle
2. Protective lens
3. Ceramic ring

Machine breakdown caused by part handling/misuse or corrosion due to exposure to caustic materials, voids the warranty.

Component failure caused by customer misuse/abuse of the unit (e.g. using incompatible materials or wrong axial position settings), voids the warranty.

TABLE OF TUBE THICKNESS AND CUTTING SPEED							
Material name	Thickness (mm)	IPG CUTTING SPEED (m/min)			Raycus CUTTING SPEED (m/min)		
		1500W	3000W	4000W	1500W	3000W	4000W
Carbon steel (O <sub>2</sub> )	1	6.0-11.0	7.0-12.0	7.0-12.0	6.0-11.0	7.0-12.0	7.0-12.0
	2	5.0-6.6	5.0-7.0	5.0-7.2	5.0-6.6	5.0-7.0	5.0-7.2
	3	3.0-3.6	3.5-5.0	3.5-5.3	3.0-3.6	3.5-5.0	3.5-5.3
	4	2.0-3.0	3.0-4.2	3.0-4.4	2.0-3.0	3.0-4.2	3.0-4.4
	5	1.8-2.4	2.5-3.6	2.5-3.8	1.8-2.4	2.5-3.6	2.5-3.8
	6	1.5-2.0	2.4-3.0	2.4-3.2	1.5-2.0	2.4-3.0	2.4-3.2
	8	1.0-1.3	1.8-2.4	1.8-2.6	1.0-1.3	1.8-2.4	1.8-2.6
Stainless steel (N <sub>2</sub> )	10		1.2-1.8	1.2-1.9		1.2-1.8	1.2-1.9
	1	6.0-20.0	6.0-20.0	6.0-22.0	6.0-20.0	6.0-20.0	6.0-22.0
	2	5.0-9.6	5.5-17.0	5.5-27.0	5.0-9.6	5.5-17.0	5.5-27.0
	3	2.0-4.0	5.0-11.0	5.0-15.0	2.0-4.0	5.0-11.0	5.0-15.0
	4	1.0-3.0	3.0-6.0	3.0-7.5	1.0-3.0	3.0-6.0	3.0-7.5
	5	0.5-1.5	2.0-4.0	2.0-5.0	0.5-1.5	2.0-4.0	2.0-5.0
	6		1.0-3.2	1.0-4.0		1.0-3.2	1.0-4.0
Aluminum alloy (N <sub>2</sub> )	8		0.6-1.8	0.6-2.6		0.6-1.8	0.6-2.6
	1	6.0-20.0	6.0-20.0	6.0-22.0	6.0-20.0	6.0-20.0	6.0-22.0
	2	3.0-9.0	4.5-16.0	4.5-21.0	5.5-17.0	5.5-17.0	5.5-27.0
	3	1.0-3.0	3.0-6.0	3.0-9.0	5.0-11.0	5.0-11.0	5.0-15.0
	4		1.0-3.6	1.0-4.5		3.0-6.0	3.0-7.5
	5		1.0-2.4	1.0-3.0		2.0-4.0	2.0-5.0
	6		0.5-1.5	0.5-2.5		1.0-3.2	1.0-4.0
Brass (N <sub>2</sub> )	8		0.3-0.7	0.3-0.7			
	1	6.0-20.0	6.0-20.0	6.0-22.0	6.0-20.0	6.0-20.0	6.0-22.0
	2	2.0-6.0	2.0-11.0	2.0-13.0	2.0-6.0	2.0-11.0	2.0-13.0
	3	1.0-1.8	1.0-6.0	1.0-6.5	1.0-1.8	1.0-6.0	1.0-6.5
	4		1.0-4.5	1.0-5.2		1.0-4.5	1.0-5.2
	5		0.7-2.0	0.7-3.0		0.7-2.0	0.7-3.0
Red copper (O <sub>2</sub> )	6		0.5-1.6	0.5-2.0			
	1	6.0-12.0	6.0-20.0	6.0-22.0	6.0-12.0	6.0-20.0	6.0-22.0
	2	1.8-3.6	3.0-9.0	3.0-10.0	1.8-3.6	3.0-9.0	3.0-10.0
	3		1.0-3.0	1.0-3.5		1.0-3.0	1.0-3.5

