

# Laser Smart Solutions

Designed for You



# Laser Cutting FMS & Automation

Laser Welding 3D Printing Press Brake Surface Treatment



# Since 1996

Founded in 1996 and listed in 2004, HAN'S LASER now is the largest laser processing solution provider in Asia, we specialize in manufacturing all kinds of laser smart equipment, including laser cutting, welding, FMS, automation, surface treatment, marking, engraving, etc.

HAN'S LASER tailors its smart equipment to perfection by producing key components in-house. Its own laser sources, laser processing heads, CNC systems and precision machine tools are the 4 keys for HAN'S LASER to differentiate itself from the competition. By focusing on R&D of laser technologies in more than 20 years, HAN'S LASER has rich experience in applying laser smart equipment to various industries, helping customers achieve their goals in the world.





HAN'S LASER in U.S.A

Industry Park in Changsha

Industry Park in Suzhou

R&D Building

## Your strongest partner in laser industry.

HAN'S LASER is continuously expanding its capacity and sales, the area of its new production base exceeds 495,000 sqm, which will be put into use in 2020.





# The smart solutions

to secure your investment.

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### HF-PRO

Highest power & speed. Tailored to perfection. 6-20 kW | 3015 / 4020 / 6020 / 6025



## HF

Classic for its most stability. Best seller. 4-20 kW | 3015 / 4020 / 6020 / 6025 / 8025



## F

Matchless cost-effective to maximize profit. 2-8 kW | 3015 / 4020 / 6020 / 6025



### PRO

Your best Entry into laser cutting world. 2-3 kW | 3015 / 4020 / 6020



#### Oversize

Flexible to any length. Excel in productivity.

### Comprehensive solutions and full power range.

Han's Laser provides customers with the most comprehensive solutions, covering full power range and any processing area.

For laser power less than 2kw, please contact our salesperson.



## Power, Materials and Thickness.

Continuously updating...



aluminum

brass

copper



# The functions lead to productivity and quality.

Unsurpassed strength...



#### Fly-cut

No need of lifting and dropping the laser cutting head, no delay (all right, microsecond delay) in laser beam's turning on and off. Fly-cut realizes the function of continuous cutting without pausing the laser cutting head, which means more output in specific time.



#### Fastback-cut

Worrying that the power might be cut off when processing? With Fastback-cut, you can easily come back to the breakpoint and resume cutting. The machine has a memory!



#### Rapid piercing

Various rapid piercing technologies such as zero second piercing, 3-phase piercing, storm-piercing, pulse piercing, etc., significantly shorten the piercing time and reduce heat effect on the material, thus ensure cutting quality.



#### Air cutting

N<sub>2</sub> and O<sub>2</sub> are too expensive? Try Air, try Air cutting technology! HAN'S LASER's special developed Air cutting takes full utilization of the air compressor to achieve even better quality in lower cost with the inexhaustible air!



#### **Burr-free cutting**

Say no to burr in aluminum cutting with burr-free cutting technology! By using specialized cutting parameters and intelligent air control system, burr-free cutting frees you from removing burr after cutting aluminum plate.



#### **Ping-pong Motion**

To shorten the idle moving time is an effective way to increase productivity. With Ping-pong motion, the cutting head has no need to fulfill the sequential lifting, moving and dropping process, it jumps like a frog.



# Smart technologies to free your hands.

All about automation...





Han's precision auto-bordering technology uses capacitive sensor to detect the edge of plates on the worktable, so that the machine knows how to automatically adjust certain angle to fulfill precision cutting, which liberates you from manual calibration work and increase your productivity.



#### Auto-Following

By years of independent R&D in intelligent height control algorithm and hardware, Han's auto-following technology has excellent performance in cutting plates with fluctuant surface, keeping the same distance between the material and the nozzle.



#### Auto-Calibration

Han's auto-calibration technology automatically detects the focus position and calibrates the reference positions in high precision to ensure stable cutting quality, which is necessary after the nozzle is changed or some other scenarios may affect the cutting head.



#### Auto-Focus-Adjustment

To effectively cut different materials in different thickness, you need different focus spots and different focus positions. Han's auto-focus-adjustment cutting head is designed for dealing with these scenarios in quick switch.



#### Auto-Pallet-Changer

With auto-pallet-changer, you could feed materials as needed with only one button. High feeding rate reduces down time and improves throughput, carrying out the preprogrammed task seamlessly.



#### Auto-Nozzle-Cleaning

To reduce manual intervention and liberate the operator from trifle work, Han's auto-nozzle-cleaning technology is another useful function to guarantee that the cutting head is 100% ready for subsequent job.





## HF-PRO - Highest power & speed. Tailored to perfection.

Model	G3015HF-PRO	G4020HF-PRO	G6025HF-PRO		
Working area & distance					
Sheet (L*W)	3*1.5m	4*2m	6*2.5m		
X-axis	3100mm	4100mm	6150mm		
Y-axis	1570mm	2070mm	2580mm		
Speed & Accuracy					
X/Y axis positioning speed	200	200 m/min			
X/Y axis acceleration	з	2.5 G			
X/Y positioning accuracy		±0.03mm/m			
X/Y repositioning accuracy		±0.02mm			
Weight & Dimension					
Max. load of worktable	1400kg	2500kg	4700kg		
Weight of machine tool	11000kg	15000kg	21000kg		
Dimension (L*W*H)	10100*3400*2150 mm	12160*3860*2150 mm	16620*4510*2150 mm		





## HF - Classic for its most stability. Best seller.

Model	G3015HF	G4020HF	G6020HF	G6025HF	G8025HF	
Working area & distance	distance					
Sheet (L*W)	3*1.5m	4*2m	6*2m	6*2.5m	8*2.5m	
X-axis	3050mm	4030mm	6030	)mm	8100mm	
Y-axis	1525mm	2020mm	2020mm	2520mm	2520mm	
Speed & Accuracy						
X/Y axis positioning speed	200m	n/min	180m/min	160n	n/min	
X/Y axis acceleration	2.8 G 2.5 G 2.1 G			2.8 G		G
X/Y positioning accuracy	±0.03mm/m					
X/Y repositioning accuracy	±0.02mm					
Weight & Dimension						
Max. load of worktable	900kg	1600kg	2400kg	3000kg	4800kg	
Weight of machine tool	10000Kg	14000Kg	18000Kg	20000Kg	24000Kg	
Dimension (L*W*H)	9615 *3040 *2330mm	11830 *3470 *2330mm	15415 *3470 *2500mm	15415 *4020 *2500mm	19100 *4200 *2500mm	





F - Matchless cost-effective to maximize profit.

Model	G3015F	G4020F	G6020F	G6025F
Working area & distance				
Sheet (L*W)	3*1.5m	4*2m	6*2m	6*2.5m
X-axis	3050mm	4050mm	6050mm	6030mm
Y-axis	1530mm	2030	)mm	2520mm
Speed & Accuracy				
X/Y axis positioning speed		140 r	n/min	
X/Y axis acceleration	2.5 G			
X/Y positioning accuracy		±0.03	mm/m	
X/Y repositioning accuracy		±0.0	2mm	
Weight & Dimension				
Max. load of worktable	750kg	1250kg	2000kg	3000kg
Weight of machine tool	8000Kg	10000Kg	12600Kg	17000Kg
Dimension (L*W*H)	8900 *3000 *1950mm	10878 *3485 *2050mm	14950 *3485 *1950mm	14900 *4020 *2320mm





## PRO - Your best Entry into laser cutting world.

Model	G3015PRO	G4020PRO	G6020PRO
Working area & distance			
Sheet (L*W)	3*1.5m	4*2m	6*2m
X-axis	3050mm	4000mm	6000mm
Y-axis	1530mm	2000mm	2000mm
Speed & Accuracy			
X/Y axis positioning speed		140 m/min	
X/Y axis acceleration		2 G	
X/Y positioning accuracy		±0.03mm/m	
X/Y repositioning accuracy	±0.02mm		
Weight & Dimension			
Max. load of worktable	750kg	1250kg	2000kg
Weight of machine tool	6500kg	10000kg	12000kg
	9700	10952	15170
Dimension (L*W*H)	*3050	*3539	*3465
	*2020mm	*2100mm	*2100mm





## Oversize - Flexible to any length. Excel in productivity.

Model	G8030FL	G12025FL	Other			
Working area & distance	Working area & distance					
Sheet (L*W)	8 * 3m	12 * 2.5m	(8-50) * (2.5-5) m			
X-axis	8700mm	12700mm	8700-50700mm			
Y-axis	3150mm	2650mm	2650-5150mm			
Z-axis		180mm				
Speed & Accuracy	Speed & Accuracy					
X/Y axis positioning speed	ed ≥42m/min					
X positioning accuracy	±0.08mm/m	±0.1	mm/m			
Y positioning accuracy	±0.04r	mm/m	±0.05mm/m			
X repositioning accuracy	±0.05mm	±0.07mm	±0.1mm			
Y repositioning accuracy	±0.04	1mm	±0.05mm			
Weight & Dimension						
Max. load of worktable	7500kg	9500kg	customized			
Weight of machine tool	6000Kg	6700Kg	customized			
Dimension (L*W*H)	12000 *4900 *2100mm	16500 *4400 *2100mm	customized			



## Fiber Laser cutting | Tube



Pxx10D Expert in thin-walled and small tubes. 1-3 kW | P6010D

Standard and classic for most common use. 2-4 kW | (W)P6018D / (W)P8018D / (W)P10018D



#### Pxxx26D

(W)Pxxx18D

For larger and heavier tubes. 3-4 kW | P6026D / P8026D / P10026D



#### Pxx35T

Ultimate weapon with triple enhanced chucks. 3-4 kW | P6035T



Pro1 / Plus1 Simple, compact, extensible. Pro1: 1-3 kW | 6m Plus1: 2-4 kW | 6m / 8m / 10m

Here you can find out all the solutions for tube cutting! You make the choice...



# The only one thing you need to do is

to start the tube cutter.





#### Auto-Loading

Han's auto-loading system is unique and with full independent intellectual property rights. By this system, up to 3 tons of tubes could be automatically loaded one by one or all-in-one to the cutting zone once. The next tube will always be ready while one is being cut.



#### Servo-Support

To ensure stable cutting quality, Han's servo-support is an intelligent device that can float to support the long tube according to its side length while rotating. This is the way to maintain high precision when cutting irregular tubes.



#### Rapid cutting

Similar to the fly-cutting function in plate cutting machines, tube's rapid cutting function excels in cutting small holes in a tube, greatly increases the efficiency. The rapid cutting function shows the seamless collaboration with each part in Han's tube cutting machine.



#### **Bevel** cutting

Han's breakthrough in bevel cutting R&D and application differentiate itself from the competition. With this cutting-edge technology, seamless connection between tubes are no longer unapproachable.



#### Servo-Unloading

When cutting long tube, servo support in the unloading side is very important to maintain cutting quality. Han's servounloading device not only ensures the quality of long tube's cutting, but also prevent the long tube from tossing out.



#### Auto-Sorting

Thanks to its modular design, Han's tube cutting machine is extensible to equip auto-sorting device to reduce labor dependency, thus increases the automation level and lower the cost of the production line.





## Pxx10D - Expert in thin-walled and small tubes.

Model	P6010D			
Processing area & working distance				
Processing length	6.2m			
Diameter	φ 10-110mm			
Side length	□ 10-110mm			
X-axis	6750mm			
Y-axis	200mm			
Z-axis	160mm			
A / B -axis (chuck)	limitless			
Speed & Accuracy				
X/Y axis positioning speed	120m/min			
A/B axis rotating speed	150rpm			
X/Y axis positioning accuracy	±0.03mm/m			
X/Y axis repositioning accuracy	±0.03mm			
Loading & Unloading				
Auto-loading length	3-6.2m			
Max. load of per tube	150Kg			
Max. unloading length	2-4m			
Weight & Dimension				
Weight of machine tool	12000Kg			
Dimension (L*W*H)	11000*4500*3000mm			





Pxxx18D - Standard and classic for most common use.

Model	P6018D	P8018D	P10018D		
Processing area & working distance					
Processing length	6.2m	8.2m	10.2m		
Diameter		φ 20-180mm			
Side length		□ 20-180mm			
X-axis	6750mm	8750mm	10750mm		
Y-axis		200mm			
Z-axis		160mm			
A / B -axis (chuck)		limitless			
Speed & Accuracy					
X/Y axis positioning speed		120m/min			
A/B axis rotating speed		120rpm			
X/Y axis positioning accuracy		±0.03mm/m			
X/Y axis repositioning accuracy		±0.03mm			
_oading & Unloading					
Auto-loading length	3-6.2m	4-8.2m	5-10.2m		
Max. load of per tube		200Kg			
Max. unloading length	4m				
Weight & Dimension					
Weight of machine tool	13000Kg	15000Kg	17000Kg		
Dimension (L*W*H)	13*4.5*2.8m	15*4.5*2.8m	17*4.5*2.8m		





Pro1 / Plus1 – Simple, compact, extensible.

Model	Pro1	Plus1
Processing area & working distance		
Processing length	6m	6m
Diameter	φ 20-160mm	φ 20-254mm
Side length	□ 20-120mm	□ 20-200mm
X-axis	6750mm	6750mm
Y-axis	200mm	200mm
Z-axis	160mm	160mm
A / B -axis (chuck)	limitless	limitless
Speed & Accuracy		
X/Y axis positioning speed	100m/min	100m/min
A/B axis rotating speed	100rpm	100rpm
X/Y axis positioning accuracy	±0.05mm/m	±0.05mm/m
X/Y axis repositioning accuracy	±0.04mm	±0.04mm
Loading & Unloading		
Auto-loading length	3-6.2m	3-6.2m
Max. load of per tube	100Kg	200Kg
Max. unloading length	2-4m	2-4m
Weight & Dimension		
Weight of machine tool	7000Kg	7000Kg
Dimension (L*W*H)	11000*2000*2800mm	11000*2000*2800mm



# Integration for sheet and tube

- Two in one, double feasibilities.
- Automatic change-over between sheet and tube.
- Compact design.



# The way to cut infinite length.

Han's RDC for coil feeding lines.



RDC - Rolling Dynamic Cutter

Benefits for you:

- Modular design, minimal floor space, extensible solution.
- Robotic handling, highly automated for massive production.
- Compatible with common decoiler, straightener and roll feed.
- Reliable and low cost.

# 3D Cutting Solutions









### W3013B

- Cantilever structure, compact design.
- Dual rotary pallet changer, high efficiency.
- Safety light curtains, intelligent protection.
- Application: Thermoforming part of automobile.

## RC2000H

- Robotic 3D fiber laser cutter.
- Highly flexible for any workpiece.
- One-step cutting technology.
- Application: Automobile covers, industrial machinery, fitness equipment, etc.

## W4020D / W4525D

- Elevated gantry structure, maximal processing zone.
- Quick switch from cutting to welding, even to 3D printing without extra adjustment.
- Application: Aerospace, automobile, industrial machinery, mold, etc.

## W3525T / W4525T

- Stationary gantry with working table structure, high dynamic function.
- Quick switch from cutting to welding, even to 3D printing without extra adjustment.
- Application: Automobile, mold, etc.

## RC3525T / RC4525T

- 3D 6axis, highest flexibility.
- Perfect integration of robot, worktable and fiber laser cutting.
- Application: Automobile, mold, etc.

# FMS & Automation

For Smart factory...

Rome is not built in a day. HAN'S LASER provides extensible

and comprehensive solutions for you. You can start with one machine, then equip it with autoloading and auto-unloading devices when you see an opportunity to reduce operator dependency.



Auto-loading | Auto-unloading | Auto-handling

Han's FMS solution is a combination of storage, auto-loading, auto-unloading, auto-handling devices in a small footprint. It

could be equipped in single machine or more, featuring an infinite extensibility.



Auto-loading | Auto-unloading | Auto-handling | Line

Integrating storage, loading and unloading into one, Han's storage tower is an automation role model in smart factory.



Storage | Auto-loading | Auto-unloading | Auto-handling | Line



## Smart Laser Welding System

Built for Automobile: TWB (tailor welded blank), car body, seat, parts, etc...



Laser Autogenous Welding



Laser-Arc Hybrid Welding



Laser Welding with filler rod



Laser Remote Welding





Han's welding technology is working for ITER project.



## Automotive TWB Laser Welding Line

Standard equipment...

Model	TWB 2511
Length	
Weld length	100-2500mm
Max. material length (left side LH1)	2500mm
Max. material length (right side RH1)	2500mm
Width	
Material width (LH)	100-1200mm
Material width (RH)	100-1200mm
Thickness & others	
Thickness	0.5-3.0mm
Number of weldable work-piece	1-4 pieces
Distance between sheets	100mm



## Automotive Body Robotic laser welding station

Customized equipment...

Model	HWF40
Robot	
Number of Axis	6
Repositioning accuracy	±0.05mm
Payload	60kg
Laser source power	2-10kw
Rotary Table	
Range	±178°
Height	800mm
Payload	Customizable
Mode of Operation	Automatic

## 3D Printing The future of Manufacture

#### Features:

- Flexible powder feeding method.
- Open parameter database package, fast development.
- Glove box removal device eliminates dust pollution.
- IoT cloud platform and app monitor and service.
- In-house control system, service and path planning software.





#### Model: Hans M160

- Dimension: 2000\*1200\*2000mm
- Max. build size: 150\*150\*200mm
- Build accuracy: ±0.05mm
- Powder feeding mode: bidirectional powder
- Layer thickness: 20-100µm
- Laser spot diameter: 45µm
- Laser power: 300w / 500w
- Scan speed: ≤7m/s
- Oxygen concentration: ≤100ppm
- Shielding gas: Ar / N<sub>2</sub>

#### Model: Hans M260

- Dimension: 2100\*1250\*2165mm
- Max. build size: 250\*250\*300mm
- Build accuracy: ±0.05mm
- Powder feeding mode: powder cylinder feeding
- Layer thickness: 20-100µm
- Laser spot diameter: 60µm
- Laser power: 500w
- Scan speed: ≤7m/s
- Oxygen concentration: ≤100ppm
- Shielding gas: Ar / N<sub>2</sub>

Note: The pictures and parameters are for reference only.

#### Application:

- Mould manufacturing
- Dental medical
- Orthopedic medical
- Education and scientific research
- Aerospace
- Automotive
- Industrial prototype



## Press Brake

Simple operation...

#### Features:

- Fast tool change, high productivity.
- Servo-driven backgauge, high accuracy.
- Grating closed-loop system control.
- Mechanical deflection countervail system.



Model	W0416BE	W1032BE	W2040BE
Pressure & working distance			
Nominal pressure	400KN	1100(1600) KN	2000(1000) KN
Possible plate width	1600mm	3200mm	4000mm
Slider stroke	150mm	200	mm
Max. opening height	380mm	420	mm
Column spacing	1000mm	2700mm	3500mm
Roar mouth depth	350mm	400	mm
Speed & Accuracy			
Press down speed	180mm/s	150(110) mm/s	110mm/s
Returning speed	150mm/s	150(110) mm/s	110mm/s
Working speed		10mm/s	
Workpiece straightness	0.2mm/m	0.3m	ım/m
Bending angle error	±0.3 degree	±0.5 c	legree
Grating resolution		±0.005mm	
Backgauge & Slider			
Speed of X-axis of backgauge		200mm/s	
Stroke of X-axis of backgauge		500mm	
Backgauge repositioning accuracy		≤±0.02mm	
Slider positioning accuracy	≤±0.02mm		
Slider repositioning accuracy	≤±0.01mm		
Power & Software			
Power	5.5kw	7.5kw	11kw
CNC system	Delem		

## Surface Treatment

Industrial solutions...

Han's Laser has developed a lot of laser technologies for surface treatment of various materials, serving automotive industry, construction industry, container industry, etc. Besides the laser cladding technology used as 3D printing, Han's laser quenching and cleaning machines have been applied into many customers' cases for its advanced technology and high reliability.

## Laser Quenching Features:

- No transformation after treatment.
- No cracking during processing.
- No need of cooling medium.
- Can obtain higher hardness than traditional way







## Laser Cleaning Features:

- Applicable to remove rust, painting, oil, rub, coating layer, cladding layer
- Efficient and environment-friendly, no need of any chemical solvent.
- Easy to operate, both robotic station and hand-held device are available.
- No damage to metal surface.
- Low cost, no consumables.

# Smart Control System cnc, mes, visual cutting...

Han's smart control system (SMC) provides customers with comprehensive control hardware and software integrated solutions in laser industry, including cnc system, intelligent sensors, functional modules, manufacturing execution system, CAD/CAM software, HMI, operation panels, visual software, etc. With Han's SMC you can manipulate your machines easily and reliably.



- Based on X86 platform, advanced system kernel, minimum interpolation cycle is 0.5ms.
- Support EtherCAT fieldbus system, integrated with full set of I/O and functional modules.
- Advance algorithm ensures smooth speed and motion control, thus guarantee processing quality.
- Updated expert process database included, easy to make parameters call.

- Real-time equipment info management.
- Order process and control.
- Production info management.
- FMS automatic line monitoring.
- Operators and shift management.
- Data analysis report output.
- Support Mobile app, PC and web access.



Drop & Cut



- Intelligent visual cutting function, what you see is what you get.
- Maximize utilization of remainder sheet by simple drop & cut operation.
- Support translation, rotation, zoom in and out composing type.
- Automatically generates NC code for immediate processing.



# CAD/CAM software programming & nesting

By many years' cooperating with METALIX and LANTEK who are both the leaders in metal processing software solutions filed, we have built up a strong partnership to improve and tailor the software solutions to perfection. We make sure that our machines deliver with the best programming and nesting software, which are friendly and easy to use.

#### The features:

- Automatic cutting
- Material-based cutting parameters
- Collision avoidance between cutting head and sheet
- Defining beam width and auto compensation
- Corner treatment
- Z axis control
- Full support for common cuts
- Cutting speeds determined by geometry and material
- WireJoint, MicroJoint, and MicroWeld support
- Vaporization options
- Marking and/or engraving before cutting
- Bridge cutting and chains
- Tool path optimization









## 24\*7 Service



HAN'S LASER values every customer in the world by guaranteeing the availability of best service throughout the whole lifecycle of your machine.

We provide comprehensive service to secure your investment.

- Pre-sales consulting
- Contract agreements
- Foundation & Layout design
- Fast delivery
- Installation
- Commissioning
- Customer training
- Acceptance

- Technical support
- Spare parts support
- Express logistics
- Lifetime maintenance
- Machine upgrade
- System update



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