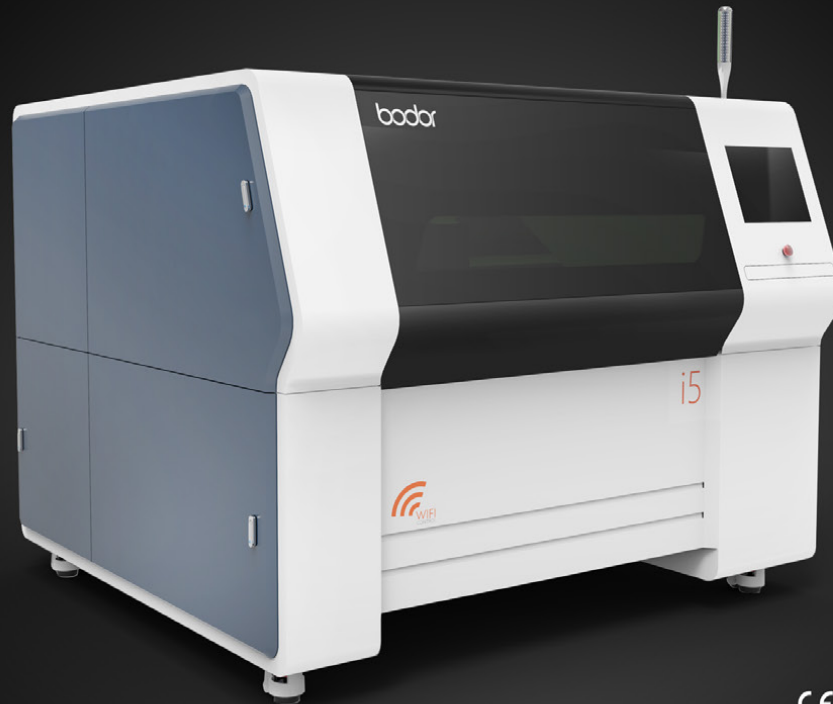


MORE FLEXIBLE AND EXQUISITE

Precise Laser Cutting Machine--i5



Precise Laser Cutting Machine--i5

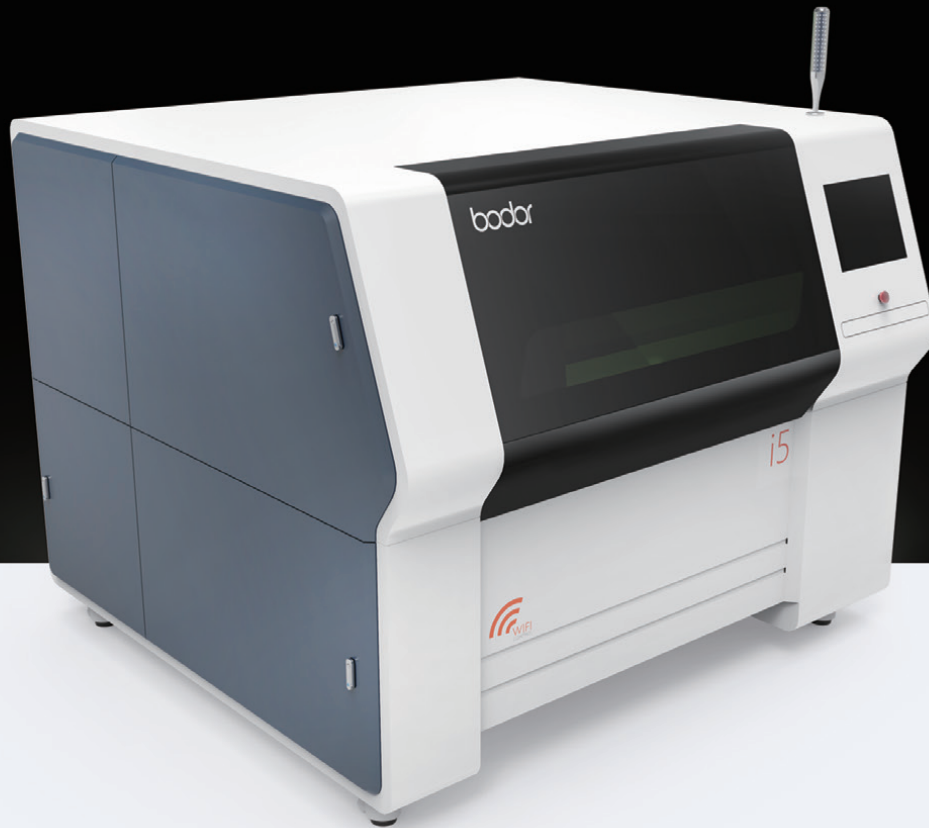
The equipment meets the parts processing requirements of most industries, working accuracy is stable. Selecting the optimal force and supporting structure, the overall mechanical property of equipment is perfect. Adopting cutting-edge optical concept to improve cutting performance. High speed cutting, auxiliary loading and unloading and efficient production reduce labor costs. At present, laser cutting machines have been widely used in electronics, electrical, mechanical hardware, new energy lithium, packaging, solar, LED, automotive and other industries.

Product parameters

Model	i5
Working area	900*1300mm
laser power	4000W/3000W/2000W/1500W/1000W
X/Y-axis positioning accuracy	0.03mm
X/Y-axis repositioning accuracy	0.02mm
X/Y-axis Maximum Simultaneous Positioning Speed	60m/min

ENVIRONMENT FRIENDLY AND HEALTHY

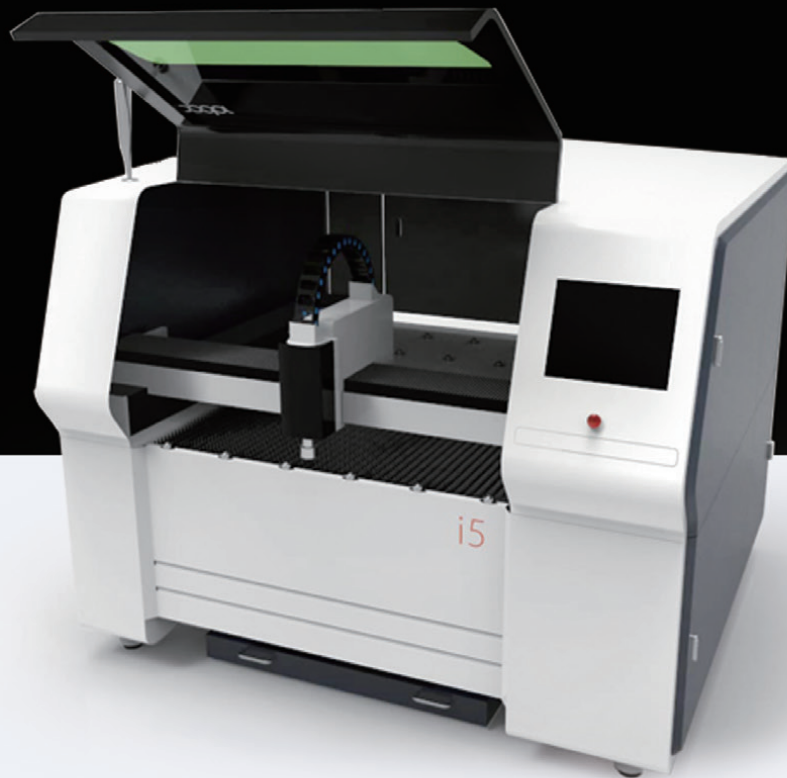
Full protection design, Sealed working space



Precise Laser Cutting Machine--i5

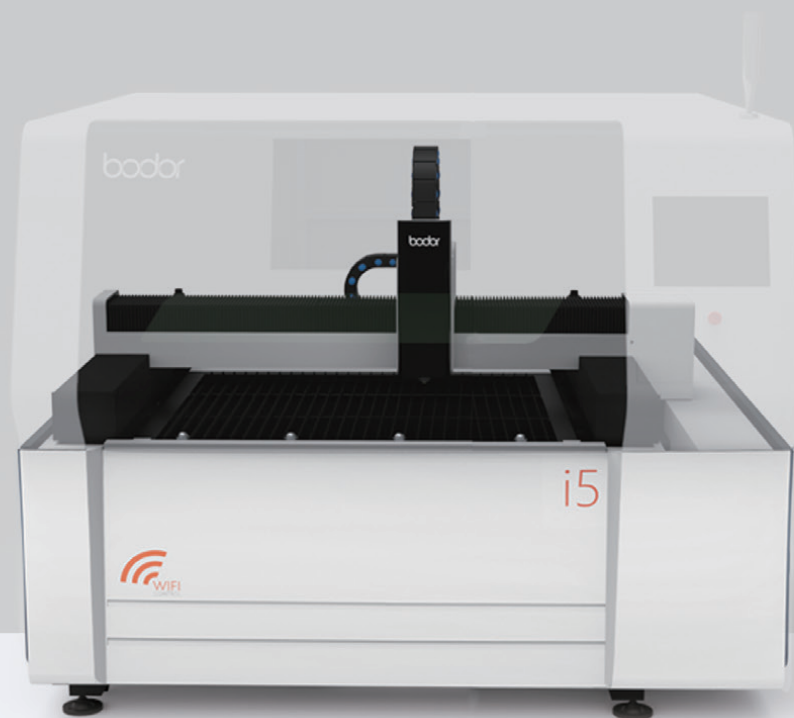
Full enclosed protection and isolated work area completely isolate smoke and laser radiation. Safer, and minimized pollution.

More Flexible And Exquisite



Precise Laser Cutting Machine--i5

Space structure is effectively used, cutting area is 900x1300mm, saving space and resources, the equipment can be moved flexibly.

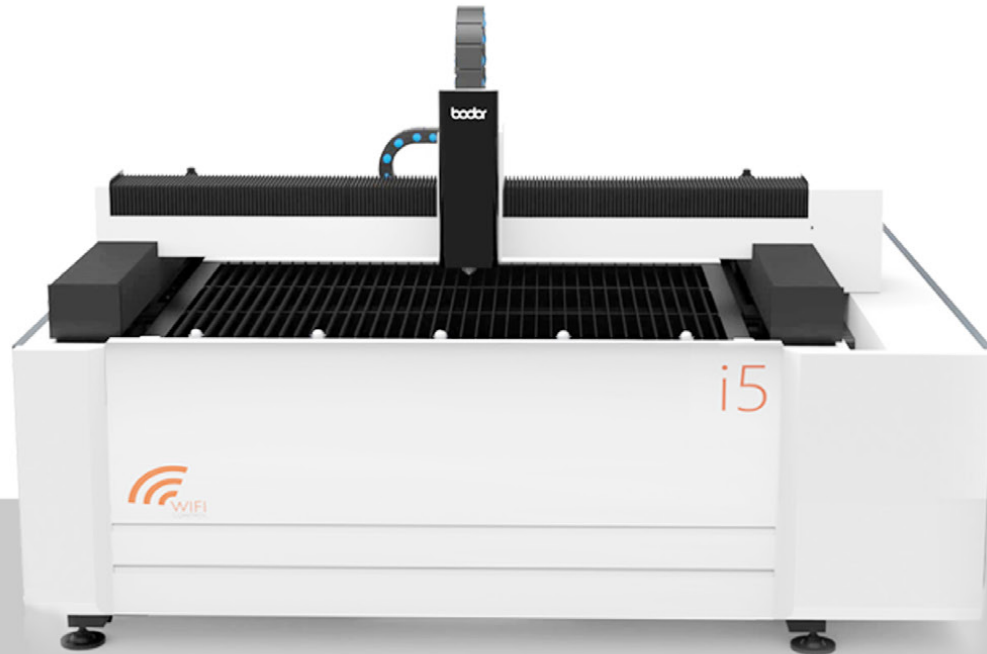


Strong stability, high precision, 20 years without deformation

Adopted carbon structural steel with good toughness, ductility, welding performance and thermal processing; Stress annealing and vibration aging treatment eliminate the stress in welding and processing of machine bed, the machine bed precision is long-lasting. Excellent mesh three-dimensional machine bed structure, strict heat treatment process and sophisticated processing level ensure the high-performance processing characteristics of the equipment;

Strong stability, high precision, accuracy is long-lasting, 20 years without deformation.

CAST ALUMINUM CROSSBEAM

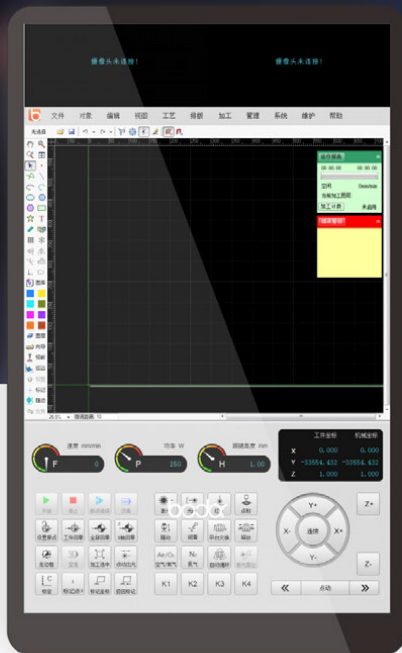


Cast aluminum crossbeam

Integral steel mold pressure casting, light, flexible and efficient

After artificial aging, solution treatment and finishing, crossbeam owns good integrity, rigidity, surface quality, toughness and ductility. Aluminum alloy's metal characteristics of light weight and strong rigidity are helpful to high speed movement in processing, and high flexibility is beneficial to high-speed cutting of various graphics based on high accuracy. Light crossbeam can give equipment a high operation speed, improving processing efficiency to ensure processing quality.

Bodor Pro2.0



Bodor Pro2.0

Adhering to "simple, acme, fast" of BODOR laser, the interface of Bodor Pro2.0 is more affinity, closer to user, and paying more attention to user experience.

Optimizing functions and algorithms makes system more stable and efficient! Dual-camera monitoring gathers processing interface and monitor interface at one.

One software with two configurations, plane cutting and tubing cutting can switch freely.

BodorPro2.0 optimized equipment, integrated compatibility and equipment perfectly, and made the system more stable, smooth and efficient.

It adopted the basic architecture of windows platform and fully inherited operating habits of office, reducing the operator's threshold.

Registration through mobile phone is convenient, fast and safer.



WiFi Remote Intelligent Assistance

Global real-time feedback, Providing real-time fault analysis and troubleshooting.



Auxiliary gas low pressure alarm function

Auxiliary gas low pressure alarm function

Providing real-time pressure detection, pushing abnormal information when pressure value is lower than optimal cutting effect and precision. Ensure the cutting performance, accuracy and timeliness of gas replacement.



Appearance design

Elegant curves and compact design make the operation easier.

Meeting the CE, FDA certification standards, fully enclosed design and powerful exhaust system achieve zero pollution to the environment, making processing more clear. Laser protective glasses make sure there is no harm to human eye; striking bar-type warning system reminds machining status of the machine at any time, the operation is safer and more efficient.

FUNCTIONS

The heavy bed makes the equipment more stable in working, the light crossbeam makes it work faster; perfect industrial design is more in line with man-machine engineering; high quality electrical software control system gives equipment higher cutting precision. The machine owns more comfortable operation, more stable performance, more durable quality, higher cutting efficiency and wider application scope.

More convenient for connecting electricity

Single-phase power supply can ensure the normal operation of equipment. This function makes machine connecting the power more convenient, and the machine could work in various places.

A new generation of safety following module

Laser head keeping distance with work piece in cutting process can reduce collision risks. It will stop cutting when colliding plate. The safety following module reduces accident rate and improves cutting performance.

Intelligent travel protection

Automatically monitor operation range of crossbeam and cutting parts, keeping operation within machining range. Double guarantees of fixed limitation greatly improve equipment and personal safety, minimizing the using risks.

Automatic lubrication system

Automatic lubrication system provides timing and ration lubricating oil for equipment to ensure its normal and high speed operation, and owns functions of abnormal alarm and liquid level alarm. The system greatly enhances cutting accuracy and effectively extends service life of transmission mechanism.

ADVANTAGES OF LASER CUTTING MACHINE

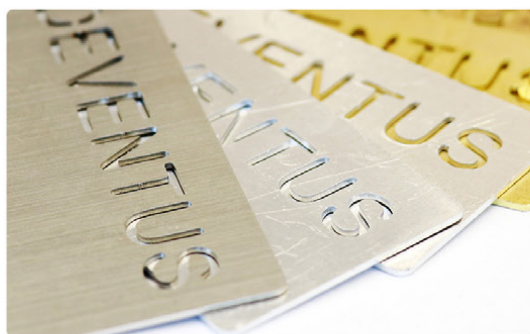
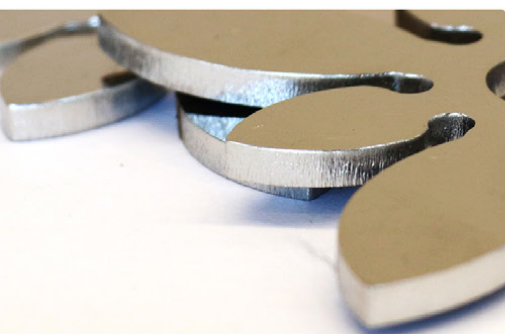
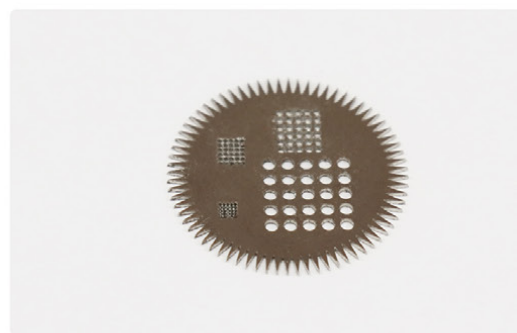
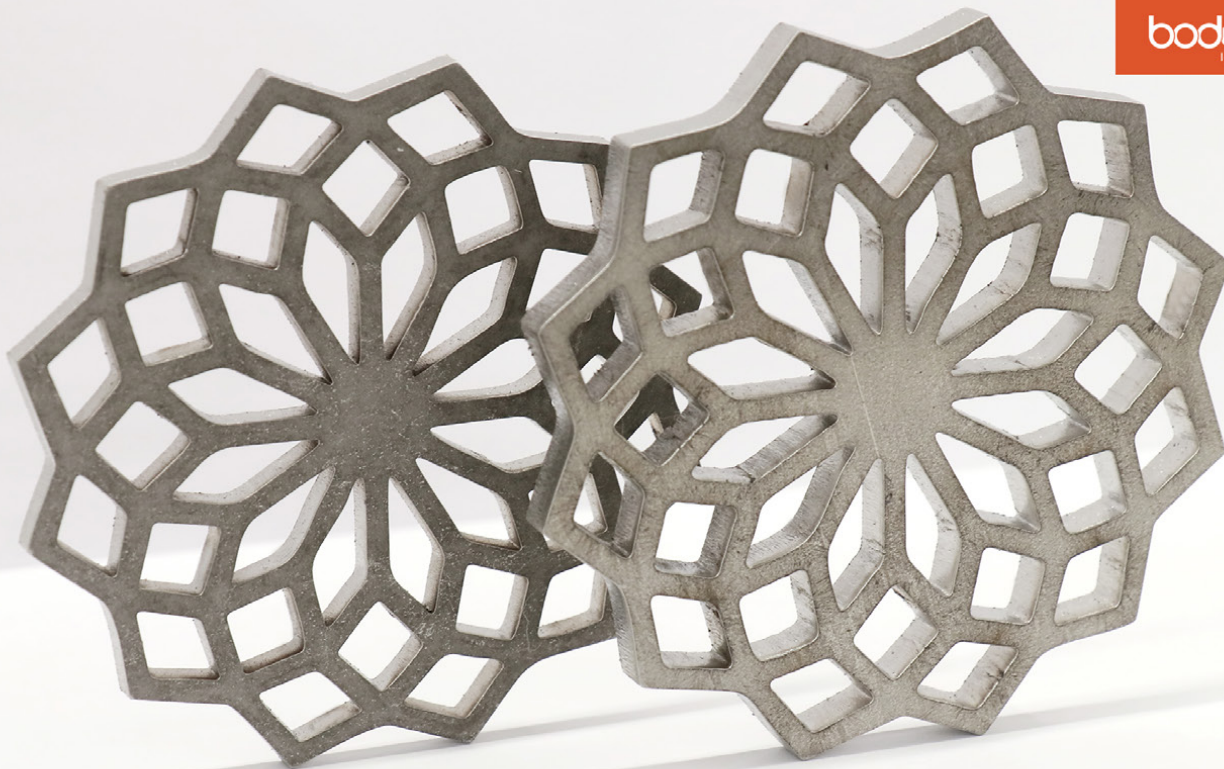
- 1, High speed, high efficiency and high performance
- 2, High precision, low cost and simple operation
- 3, Extensive processing materials, advanced processing technology and strong flexibility
- 4, Energy-saving and environmental protection, simple maintenance and low operating cost
- 5, High cost performance and standard after-service
- 6, Independently-developed software, simple operation, safety and stable performance
- 7, Reasonable framework, leading technology, superior performance, high speed operation and perfect functions
- 8, Reasonable structure, easy operation, laser source runs stable with low maintenance cost

The advantages of laser cutting compared with traditional cutting methods

1. High precision: Focusing accuracy is 0.05mm, repetition focusing accuracy is 0.02 mm
2. Narrow kerf: The laser beam is focused into a small spot, making the focus reach high power density, the material is quickly heated up to the gasification then evaporates to form holes. With the relative linear movement of the light beam to the material, the hole is continuously formed narrow gaps. Kerf width of the incision is usually 0.10 ~ 0.20mm.
3. Smooth section: Cutting surface without burrs, roughness of incision surface is generally controlled within Ra12.5.
4. Good cutting quality: Non contact cutting, cutting edge is less affected by heat, basically no thermal deformation of work piece, completely avoid down edge formed by material punching, in general, slit doesn't need secondary processing.
5. No damage to work piece: Laser cutting head won't contact surface of material to ensure no scratches to work piece.

Advantages compared with other cutting methods

1. Wire cutting: High precision, difficult to perforate, low cutting speed. Low investment in equipment. The price range of a device is from tens of thousands to hundreds of thousands or so.
2. Laser cutting: High precision, cutting speed is influenced by plate thickness which is generally within 10 m / min. Not suitable for thick plate (only for 0~25mm plate), high investment in equipment is suitable for large batch processing.
3. Water jet cutting: High precision, low cutting speed. It is not suitable for large batch processing, and equipment investment is high.
4. Plasma cutting: High precision(The verticality of the product is not high), fast speed and consumption. Suitable for large batch processing, and equipment investment belongs to medium level.
5. Flame (oxygen) cutting: Accuracy(thermal deformation), low speed, suitable for large batch processing. Equipment investment is small and operation cost is cheap.
6. Punch: Difficult for processing various small-batch materials, suitable for few large batch processing. It is difficult to cut the thick plate. Equipment investment belongs to medium level.
7. Plate shearing machine: Not suitable for curvilinear cutting, straight line cutting is OK, difficult for thick plate cutting.



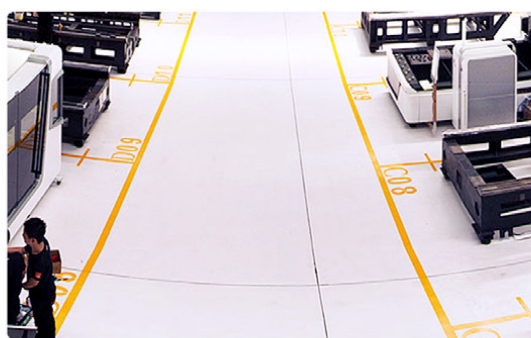
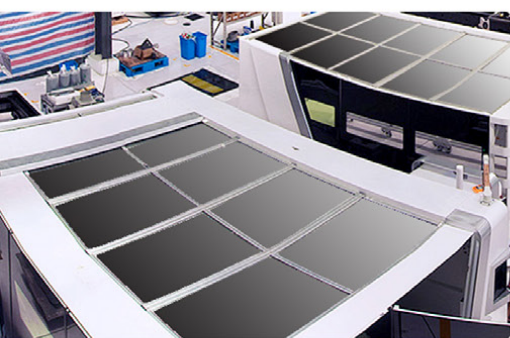
Metal Samples

For more information, please go to the website : www.bodor.com



OFFICE

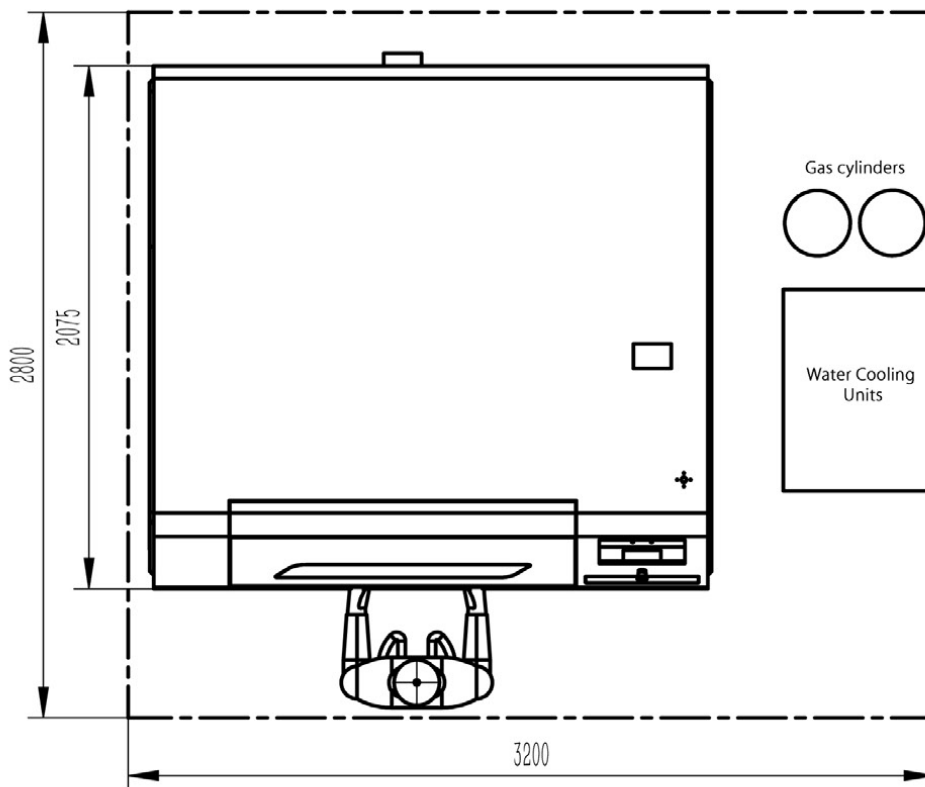
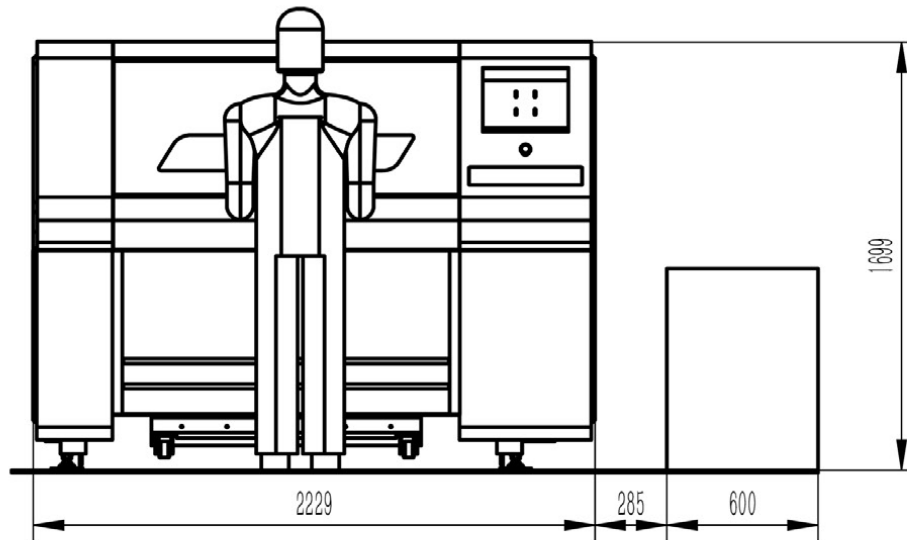
For more information, please go to the website : www.bodor.com



WORKSHOP

For more information, please go to the website : www.bodor.com

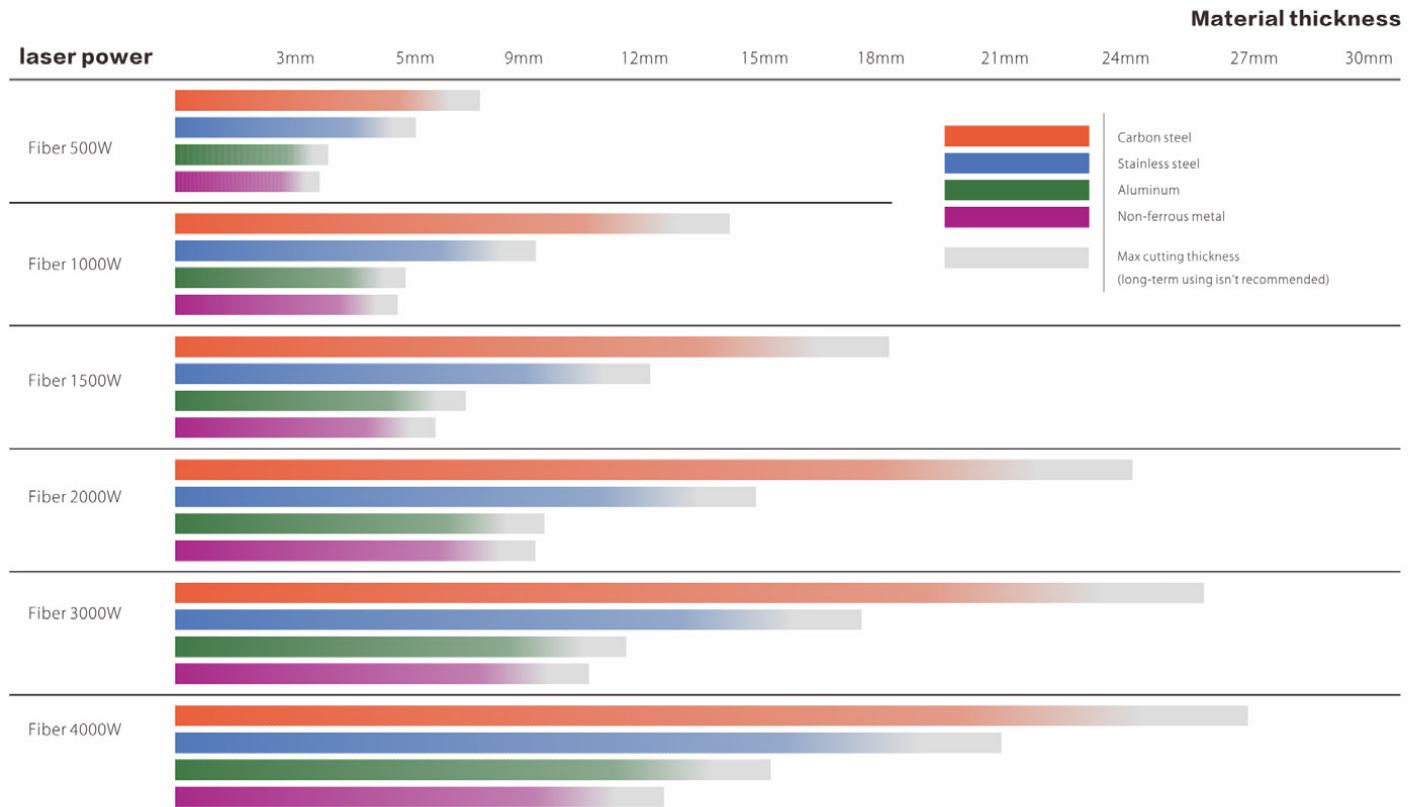
i5 • FLOOR PLAN



PLACING REQUIREMENT

- 1.The whole machine should keep away from obstacles at least 1m.
- 2.The whole machine should be far away from the hypocenter.
- 3.The planeness of placing field should be less than 5mm.
- 4.Voltage fluctuation of the whole machine should be kept in $\pm 5\%$.

Cutting Capacity



Above data is only for reference

1000W FIBER LASER USING COST

Consumption		Assisted gas	ChooseI:using air compressor Group as air supply to cutting stainless steel	ChooseII:using O ₂ cutting stainless steel	ChooseIII:using N ₂ cutting stainless steel
		Power Consumption		Laser module	4 kw
		Water Chiller Group	2.8kw	2.8kw	2.8kw
		Host Machine	5.4kw	5.4kw	5.4kw
		Dust Exhausting Equipment	3kw	3kw	3kw
Total Power			15.2kw	15.2kw	15.2kw
Average Power Consumption (Take 80% Cutting Efficiency)			$15.2 \times 80\% = 12.16\text{kw}$	$15.2 \times 80\% = 12.16\text{kw}$	$15.2 \times 80\% = 12.16\text{kw}$
Gas Consumption			$15 \times 85\% = 12.75\text{kw}$	About 20L/h(1.45 \$)	About 50L/h(3.61 \$)
Quick-wear Part			0.36 \$/h	0.36 \$/h	0.36 \$/h
All Cost Reference 0.1 \$/kwh			$1.216 + 1.275 + 0.36 = 2.85$ \$/h	$1.216 + 1.45 + 0.36 = 3.03$ \$/h	$1.216 + 3.61 + 0.36 = 5.19$ \$/h

2000W FIBER LASER USING COST

Consumption		Assisted gas	ChooseI:using air compressor Group as air supply to cutting stainless steel	ChooseII:using O ₂ cutting stainless steel	ChooseIII:using N ₂ cutting stainless steel
		Power Consumption		Laser module	8 kw
		Water Chiller Group	3.1kw	3.1kw	3.1kw
		Host Machine	6kw	6kw	6kw
		Dust Exhausting Equipment	3kw	3kw	3kw
Total Power			20.1kw	20.1kw	20.1kw
Average Power Consumption (Take 80% Cutting Efficiency)			$20.1 \times 80\% = 16.08\text{kw}$	$20.1 \times 80\% = 16.08\text{kw}$	$20.1 \times 80\% = 16.08\text{kw}$
Gas Consumption			$20 \times 85\% = 17\text{kw}$	About 20L/h(1.45 \$)	About 50L/h(3.61 \$)
Quick-wear Part			0.36 \$/h	0.36 \$/h	0.36 \$/h
All Cost Reference 0.1 \$/kwh			$1.608 + 1.7 + 0.36 = 3.67$ \$/h	$1.608 + 1.45 + 0.36 = 3.42$ \$/h	$1.608 + 3.61 + 0.36 = 5.58$ \$/h

Above data is only for reference

3000W FIBER LASER USING COST

Consumption		Assisted gas		ChooseI:using air compressor Group as air supply to cutting stainless steel	ChooseII:using O ₂ cutting stainless steel	ChooseIII:using N ₂ cutting stainless steel
Power Consumption	Laser module	12kw		12kw	12kw	12kw
	Water Chiller Group	4.94kw		4.94kw	4.94kw	4.94kw
	Host Machine	10.5kw		10.5kw	10.5kw	10.5kw
	Dust Exhausting Equipment	3kw		3kw	3kw	3kw
Total Power		30.44kw		30.44kw	30.44kw	30.44kw
Average Power Consumption (Take 80% Cutting Efficiency)		$30.44 \times 80\% = 24.35\text{kw}$		$30.44 \times 80\% = 24.35\text{kw}$	$30.44 \times 80\% = 24.35\text{kw}$	$30.44 \times 80\% = 24.35\text{kw}$
Gas Consumption		$20 \times 85\% = 17\text{kw}$		About 20L/h(1.45 \$)	About 50L/h(3.61 \$)	
Quick-wear Part		0.43 \$/h		0.43 \$/h	0.43 \$/h	0.43 \$/h
All Cost Reference 0.1 \$/kwh		$2.435 + 1.7 + 0.43 = 4.57$ \$/h		$2.435 + 1.45 + 0.43 = 4.32$ \$/h	$2.435 + 3.61 + 0.43 = 6.48$ \$/h	

4000W FIBER LASER USING COST

Consumption		Assisted gas		ChooseI:using air compressor Group as air supply to cutting stainless steel	ChooseII:using O ₂ cutting stainless steel	ChooseIII:using N ₂ cutting stainless steel
Power Consumption	Laser module	15kw		15kw	15kw	15kw
	Water Chiller Group	6.08kw		6.08kw	6.08kw	6.08kw
	Host Machine	10.5kw		10.5kw	10.5kw	10.5kw
	Dust Exhausting Equipment	3kw		3kw	3kw	3kw
Total Power		34.58kw		34.58kw	34.58kw	34.58kw
Average Power Consumption (Take 80% Cutting Efficiency)		$34.58 \times 80\% = 27.66\text{kw}$		$34.58 \times 80\% = 27.66\text{kw}$	$34.58 \times 80\% = 27.66\text{kw}$	$34.58 \times 80\% = 27.66\text{kw}$
Gas Consumption		$20 \times 85\% = 17\text{kw}$		About 20L/h(1.45 \$)	About 50L/h(3.61 \$)	
Quick-wear Part		0.43 \$/h		0.43 \$/h	0.43 \$/h	0.43 \$/h
All Cost Reference 0.1 \$/kwh		$2.766 + 1.7 + 0.43 = 4.90$ \$/h		$2.766 + 1.45 + 0.43 = 4.65$ \$/h	$2.766 + 3.61 + 0.43 = 6.81$ \$/h	

Above data is only for reference

Fiber Laser Cutting Process Parameters

		500W	1000W	1500W	2000W	3000W	4000W	6000W	8000W	10000W	12000W
Material	Thickness	speed m/min	speed m/min	speed m/min	speed m/min	speed m/min	speed m/min				
Carbon steel (Q235A)	1	7.0--9.0	8.0--10	15--26	24--30	30--40	33--43				
	2	3.0--4.5	4.0--6.5	4.5--6.5	4.7--6.5	4.8--7.5	15--25				
	3	1.8--3.0	2.4--3.0	2.6--4.0	3.0--4.8	3.3--5.0	7.0--12				
	4	1.3--1.5	2.0--2.4	2.5--3.0	2.8--3.5	3.0--4.2	3.0--4.0				
	5	0.9--1.1	1.5--2.0	2.0--2.5	2.2--3.0	2.6--3.5	2.7--3.6				
	6	0.6--0.9	1.4--1.6	1.6--2.2	1.8--2.6	2.3--3.2	2.5--3.4				
	8		0.8--1.2	1.0--1.4	1.2--1.8	1.8--2.6	2.0--3.0				
	10		0.6--1.0	0.8--1.1	1.1--1.3	1.2--2.0	1.5--2.4				
	12		0.5--0.8	0.7--1.0	0.9--1.2	1.0--1.6	1.2--1.8				
	14			0.5--0.7	0.7--0.8	0.9--1.4	0.9--1.2				
	16				0.6-0.7	0.7--1.0	0.8--1.0				
	18				0.4--0.6	0.6--0.8	0.6--0.9				
	20					0.5--0.8	0.5--0.8				
	22						0.4--0.8				
25											
Stainless steel (201)	1	8.0--13	18--25	20--27	24--30	30--35	32--45				
	2	2.4--5.0	5--7.5	8.0--12	9.0--15	13--21	16--28				
	3	0.6--0.8	1.8--2.5	3.0--5.0	4.0--6.5	6.0--10	7.0--15				
	4		1.2--1.3	1.5--2.4	3.0--4.5	4.0--6.0	5.0--8.0				
	5		0.6--0.7	0.7--1.3	1.8-2.5	3.0--5.0	3.5--5.0				
	6			0.7--1.0	1.2-2.0	2.0--4.0	2.5--4.5				
	8				0.7-1.0	1.5--2.0	1.2--2.0				
	10					0.6--0.8	0.8--1.2				
	12					0.4--0.6	0.5--0.8				
	14						0.4--0.6				
	20										
25											
30											
40											
Aluminum	1	4.0--5.5	6.0--10	10--20	15--25	25--38	35--45				
	2	0.7--1.2	2.8--3.6	5.0--7.0	7--10	10--18	13--24				
	3		0.7--1.5	2.0--4.0	4.0--6.0	6.5--8.0	7.0--13				
	4			1.0--1.5	2.0--3.0	3.5--5.0	4.0--5.5				
	5			0.7--1.0	1.2--1.8	2.5--3.5	3.0--4.5				
	6				0.7--1.0	1.5--2.5	2.0--3.5				
	8				0.6--0.8	0.7--1.0	0.9--1.6				
	10					0.4--0.7	0.6--1.2				
	12					0.3-0.45	0.4--0.6				
	16						0.3--0.4				
	20										
	25										
	30										
Brass	1	4.0--5.5	6.0--10	8.0--13	10--16	20--35	25--35				
	2	0.5--0.9	2.8--3.6	3.0--4.5	4.5--7.5	6.0--10	8.0--12				
	3		0.5--1.0	1.5--2.5	2.5--4.0	4.0--6.0	5.0--8.0				
	4			1.0--1.6	1.5--2.0	3.0-5.0	3.2--5.5				
	5			0.5--0.7	0.9--1.2	1.5--2.0	2.0--3.0				
	6				0.4--0.7	1.0--1.8	1.4--2.0				
	8					0.5--0.7	0.7--1.2				
	10						0.2--0.5				
	12										
	14										
16											

The cutting parameters are only for oxygen and nitrogen

Above data is only for reference

For more information, please go to the website : www.bodor.com