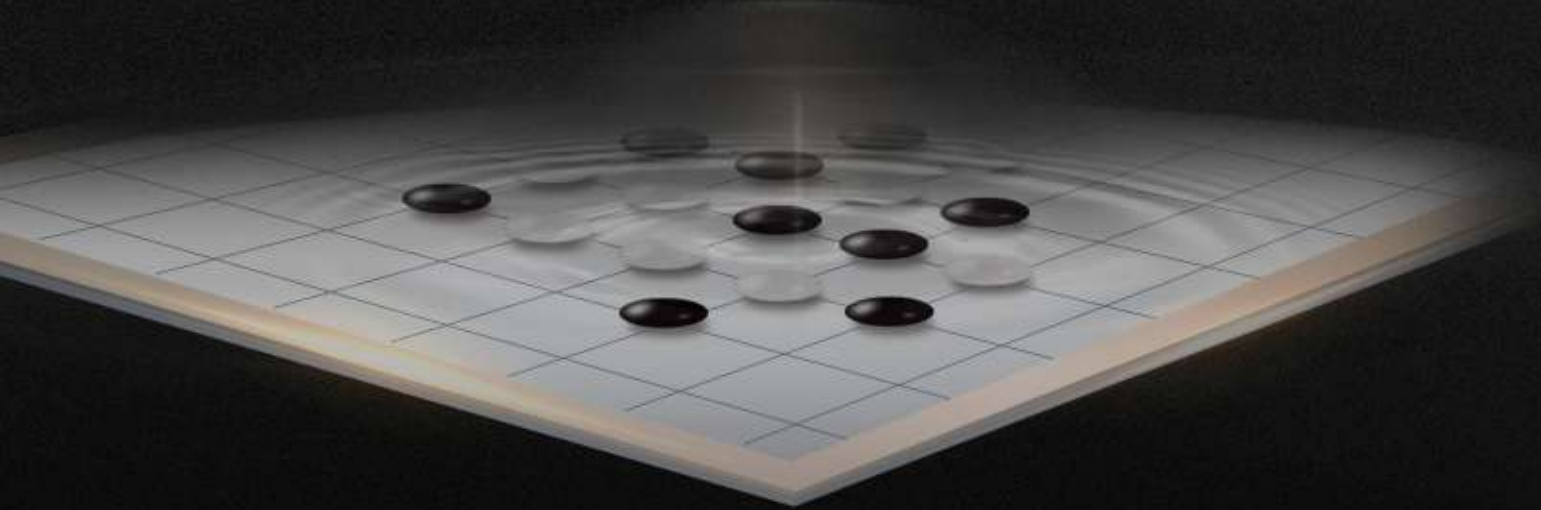# i SERIES

ULTRA-PRECISE LASER CUTTING MACHINE

1.5kW–3kW

THE BLACK GO CHESS
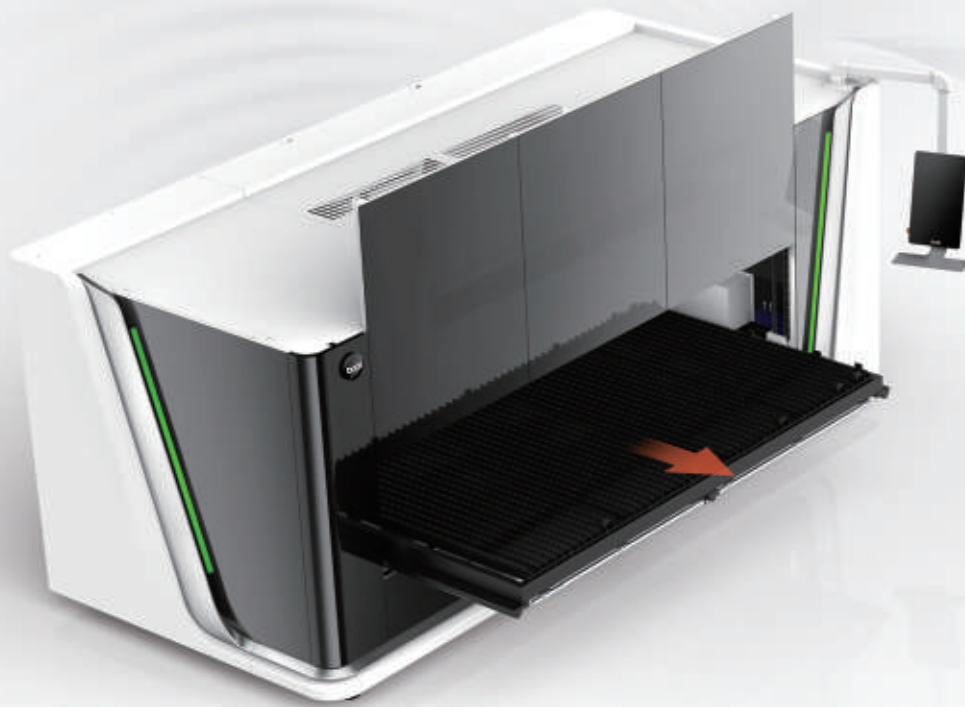
Black Go chess — inspired by Go

Circular — endless loop, endless exploration

Black — derived from obsidian crystal, steady and deep

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

![bodor logo - Dare to dream]

SMALL IN SIZE, MORE IN FLEXIBILITY

Advantages

◉ The compact design with small space occupation

◉ Full enclosed protection and isolated work area completely isolate smoke and laser radiation.

◉ Side door opening, the table can be streched out, easy to operate.

◉ Single-phase power supply can ensure the normal operation of equipment, which makes it more convenient to connect, it could work in various places.
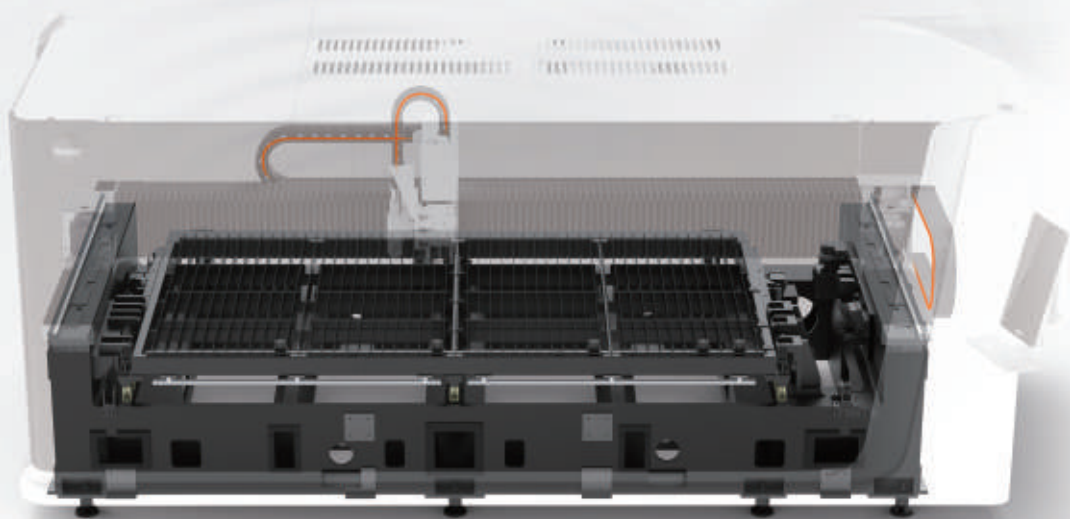
BODORPRO CONTROL SYSTEM

Advantages

- Integration of CAD and CAM can directly identify drawings and nest

- Good adaptability, support G code(NC)、DXF、PLT、ENG and other file formats

- The cutting speed and duty cycle can be adjusted to improve the perforation quality

- The imported drawings can be preprocessed

INTELLIGENT FUNCTIONS

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.

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.
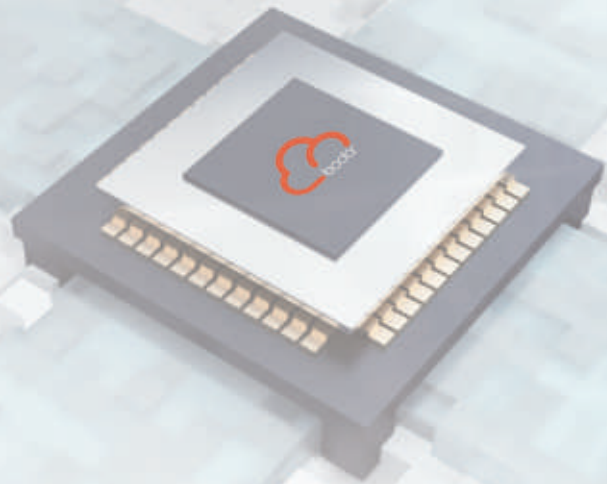
INTELLIGENT FUNCTIONS

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 FUNCTIONS

Intelligent alarm system

● The system will start full abnormal alarm and push it to the interface through control center when equipment is abnormal.

● Finding equipment abnormal in advance and reducing hidden dangers can multiply improve the equipment troubleshooting efficiency.

Various intelligent sensor modules

● Various intelligent sensor modules to improve safety and device protection

CAST IRON BED

Advantages

⦿ Pouring mold, clone production; integrally formed, reject splicing

⦿ The usage of flake graphite with the lowest tensile strength of 200MPa gives the whole equipment strong shock absorption, wear resistance, high hardness, high carbon content, high compressive strength.

⦿ Low notch sensitivity and thermal sensitivity of cast iron bed reduces the loss of equipment in using, keeps the precision of cutting unchanged and no deformation in its life cycle.

CAST ALUMINUM CROSSBEAM
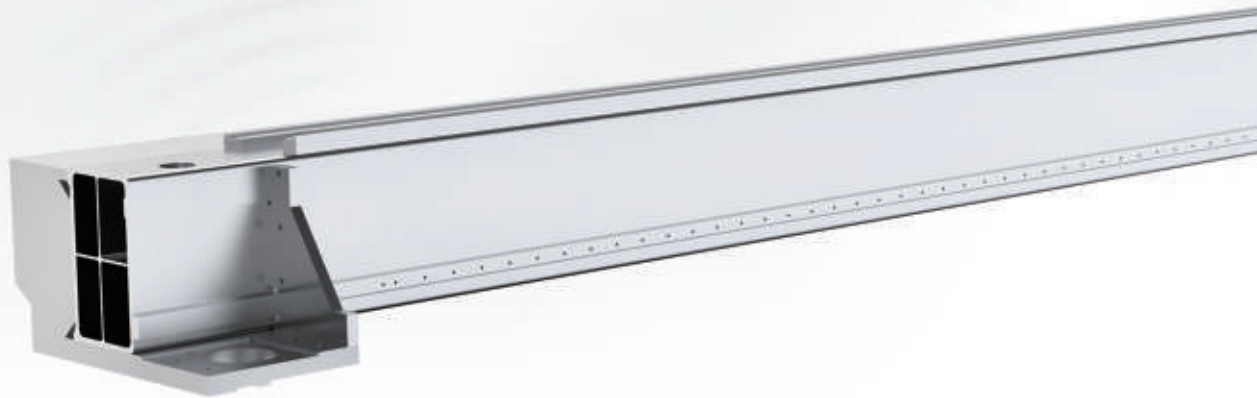
Advantages

- Integral pressure casting by steel mold makes it light, flexible and efficient

- The light weight and strong rigidity of aluminum alloy are suitable for high speed movement during processing, and the high flexibility is beneficial to high-speed cutting of various graphics.

- Light crossbeam offers high operation speed, improving efficiency and ensuring quality.
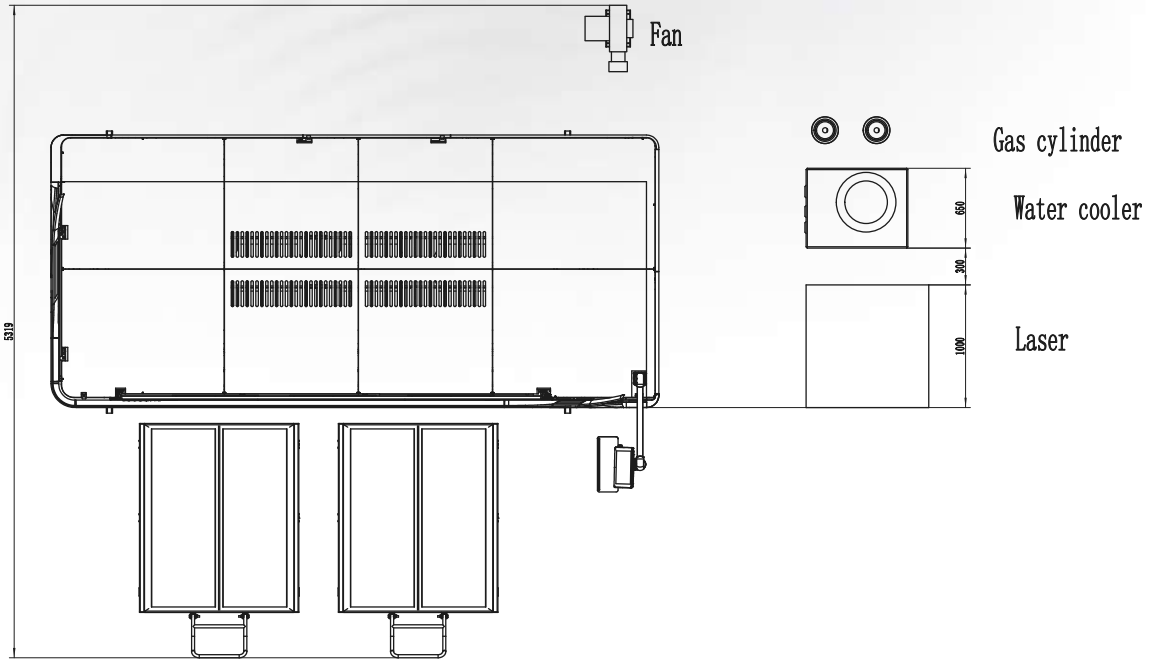
BODOR CLOUD

Advantages

◉ Daily equipment status management (processing data, report forms)

◉ Alarm and maintenance reminder

◉ Cloud transmission for processing programs

◉ Remote online service access with one key

◉ Real-time information of the latest cutting process

Fan

Gas cylinder

Water cooler

Laser
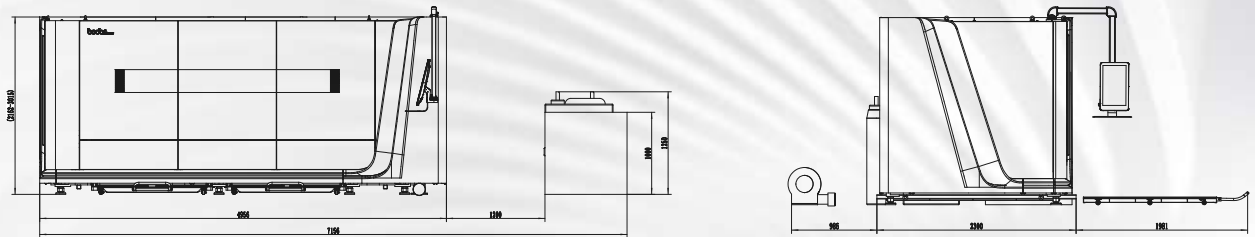
machine front

The above layout drawings and figures are for referrence only, the actual drawing shipped with machine prevails.

i7
3048mm*1524mm

i5
1000mm*1500mm

Technical Data

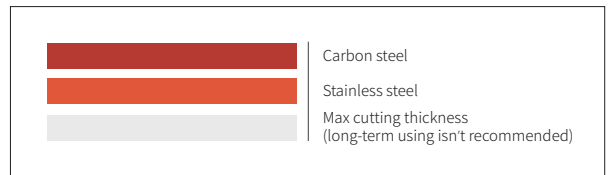| ITEM	A14	A3
Working area	3048*1524mm	1000*1500mm
Max. linkage speed	100m/min	60m/min
Max. acceleration	1.0G	0.6G
Table load bearing	900kg	250kg
Machine overall dimensions	4960×2280×2200	3630×2200×1940
Overall weight	7500kg	3000kg
Z axis travel	120mm	70mm
Positioning accuracy	±0.05mm	±0.05mm
Repositioning accuracy	±0.03mm	±0.03mm
Total power capacity/current with 3KW source	50.7KVA/77A	39.4KVA/59.8A
Total power capacity/current with 2KW source	39.6KVA/60.2A	28.3KVA/43A
Total power capacity/current with 1.5KW source	39.3KVA/59.7A	single-phase:28KVA/73.5A three-phase:38VA/42.5A

Configuration And Components

laser head	BodorGenius	
Laser source	BODOR/IPG	
Machine bed	Cast iron bed	
Bed functions	Easy-access sliding bed	Stationary bed (optional pneumatic sheet-clamping)
X-axis、Y-axis、Z-axisServo motor and driver	Japan Yaskawa	
Linear Rails	Made in Taiwan	
Leadscrew	Made in Taiwan	
Protective Enclosure	●	
Control system	BodorPro 2.0	
Display size	21.5 inches"	
Electrical proportional valve	Japan SMC/Germany AVENTICS	
O2 Cutting gas control valve	Japan SMC	
N2 Cutting gas control valve	Japan SMC	
Water Chiller	●	
Dust removal	Centrifugal fan	

Cutting Parameters

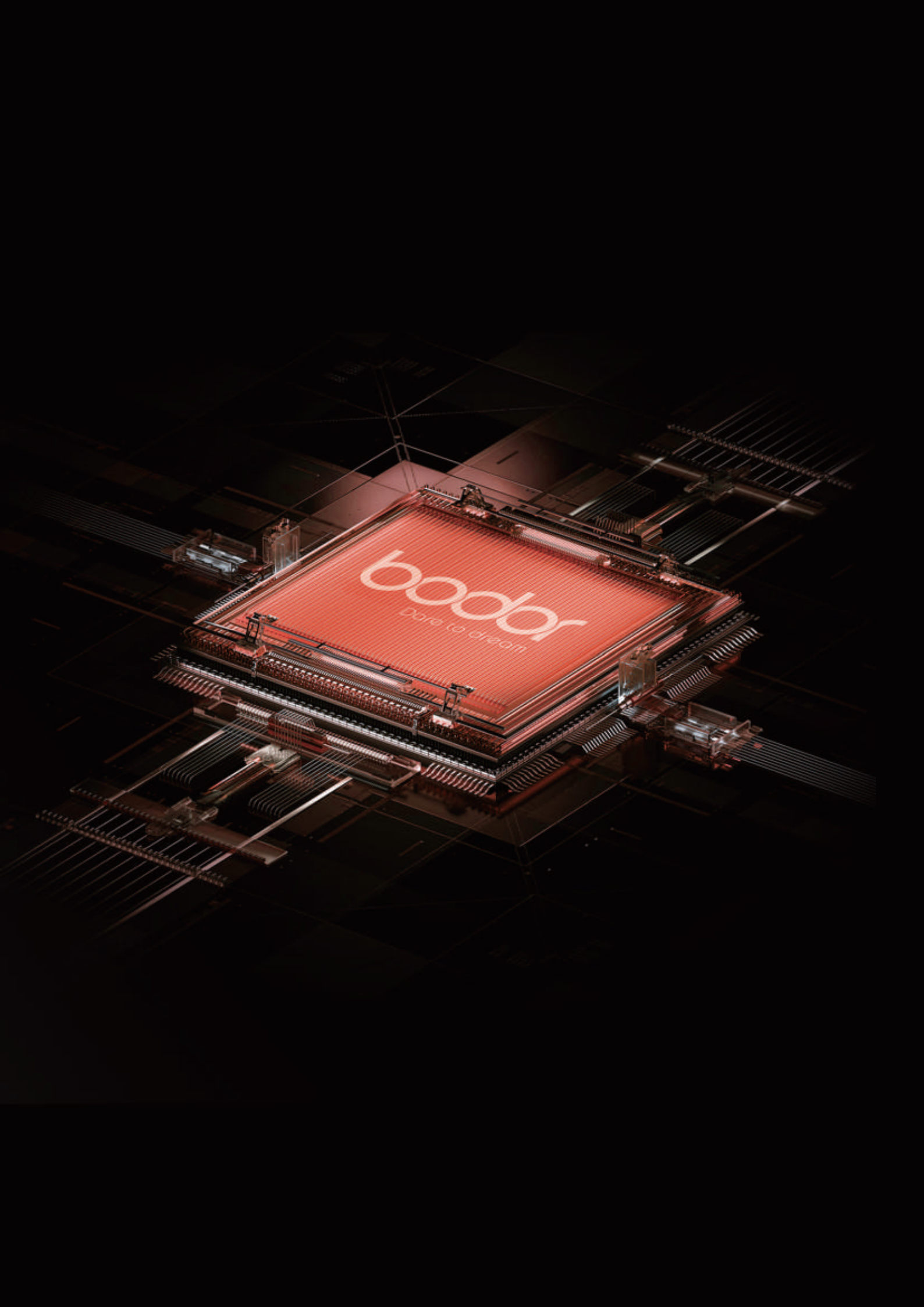|	Thickness	1000W speed m/min	1500W speed m/min	2000W speed m/min	3000W speed m/min	6000W speed m/min	12kW speed m/min	15kW speed m/min	20kW speed m/min	30kW speed m/min
"Carbon steel (Q235A) O2"	1	8.0--10	8.0--10	8.0--10	8.0--10	8--10	9--11	9--11	9--11	9--11
	2	4.0--6.5	4.5--6.5	4.7--6.5	4.8--7.5	5--7.5	5--7.5	5--7.5	5--7.5	5--7.5
	3	2.4--3.0	2.6--4.0	3.0--4.8	3.3--5.0	3.5--5	3.5--5.5	3.5--5.5	3.5--5.5	3.5--5.5
	4	2.0--2.4	2.5--3.0	2.8--3.5	3.0--4.2	3.0--4.5	3.5--5	3.5--5	3.5--5	3.5--5
	5	1.5--2.0	2.0--2.5	2.2--3.0	2.6--3.5	3.0--4.2	3.3--4.8	3.3--4.8	3.3--4.8	3.3--4.8
	6	1.4--1.6	1.6--2.2	1.8--2.6	2.3--3.2	2.5--3.5	3.0--4.2	3.0--4.2	3.0--4.5	3.0--4.5
	8	0.8--1.2	1.0--1.4	1.2--1.8	1.8--2.6	2.2--3.2	2.5--3.8	2.5--3.8	2.5--3.9	2.5--3.9
	10	0.6--1.0	0.8--1.1	1.1--1.3	1.2--2.0	1.8--2.5	2.2--3.6	2.2--3.6	2.0--3.8	2.2--3.8
	12	0.5--0.8	0.7--1.0	0.9--1.2	1.0--1.6	1.2--2.1	1.2--3.5	1.2--3.6	1.6--3.7	1.6-3.7
	14		0.5--0.7	0.8--1.0	0.9--1.2	1.2--1.8	1.7--3.3	1.5--3.5	1.5--3.6	1.6-3.6
	16			0.6-0.8	0.7--1.0	0.8--1.5	1.2--3.1	1.2--3.5	1.4--3.5	1.5--3.5
	18			0.5--0.7	0.6--0.8	0.6--1.2	1.0--2.7	1.2--3.0	1.4--3.4	1.4--3.4
	20				0.5--0.8	0.5--0.8	0.6--2.4	1.2--2.7	1.5--3.3	1.5--3.3
	25					0.3--0.55	0.5--1.6	0.8--1.8	1.0-2.8	1.0-2.8
	30						0.3--1.0	0.6--1.4	0.8--2.0	1.2-2.0
	35						0.3--0.7	0.4--0.7	0.6--0.9	0.9--1.1
	40						0.2--0.4	0.3--0.5	0.5--1.0	0.8-1.0
	45						0.2--0.3	0.2--0.5	0.3--0.5	0.5--0.8
	50								0.2--0.5	0.4--0.6
	60								0.2--0.4	0.2--0.4
"Stainless steel (201) N2"	1	18--25	20--27	24--50	30--35	42--52	70--85	72--100	72--100	72--100
	2	5--7.5	8.0--12	9.0--15	13--21	20--33	40--66	45--70	50--75	50--75
	3	1.8--2.5	3.0--5.0	4.8--7.5	6.0--10	15--22	35--45	38--50	38--55	38--55
	4	1.2--1.3	1.5--2.4	3.2--4.5	4.0--6.0	10--15	20--32	25--35	25--33	30-35
	5	0.6--0.7	0.7--1.3	2.0-2.8	3.0--5.0	7.0--12	18--25	20--30	22--30	25--32
	6		0.7--1.0	1.2-2.0	2.0--4.0	4.8--9.0	12--15	15.0--25.0	17--25	18-26
	8			0.7-1.0	1.5--2.0	3.0--4.0	8--12	8.0--12.0	12--18	15-20
	10				0.6--0.8	1.6--2.5	6.0--8.0	6.0--10.0	8.0--12.0	12--15
	12				0.4--0.6	0.8--1.5	4.0--5.5	4.0--6.0	6.0--8.5	8--12
	14					0.6--1.2	3.0--5.0	3.5--5.5	5.0--7.0	6--10.5
	16					0.5--1.0	2.2--2.8	2.5--3.0	3.0--5.0	5--9
	18					0.4--0.8	1.2--2.0	1.2--2.2	1.8--2.7	3--6.5
	20					0.3--0.6	1.0--1.6	1.3--1.8	1.5--3.2	2--4.7
	25						0.5--0.8	0.6--1.2	1.5--2.0	1.8-2.5
	30						0.3--0.6	0.5--1.0	1.0--1.5	1.5--1.8
	35						0.3--0.5	0.4--0.8	0.4--0.8	1.0-1.5
	40						0.3--0.5	0.3--0.6	0.3--0.6	0.6-1.3
	45							0.2--0.5	0.2--0.6	0.8-1.0
	50							0.1--0.5	0.2--0.5	0.25-0.5
	60							0.1--0.2	0.1-0.3	0.2-0.3
	70									0.17-0.3
	80									0.15-0.3
"Aluminum N2"	1	6.0--10	10--20	20--30	25--38	42--55	60--85	70--100	70--100	
	2	2.8--3.6	5.0--7.0	10--15	10--18	20--40	38--50	40--55	40--70	
	3		2.0--4.0	5.0--7.0	6.5--8.0	15--25	30--40	35--45	35--60	
	4		1.0--1.5	3.5--5.0	3.5--5.0	9.5--12	20--30	30--40	30--43	
	5			1.8--2.5	2.5--3.5	5.0--8.0	15--25	20--30	20--32	
	6			1.0--1.5	1.5--2.5	3.8--5.0	10--15	15--24	15--26	
	8				0.7--1.0	2.0--2.5	7.0--12	8.0--12.0	10--18	
	10				0.4--0.7	1.0--1.5	4.5--8.0	5.0-9.0	6.0--10.0	
	12					0.8--1.3	4.0--5.0	4.0--6.0	4.0--6.0	
	14					0.9--1.2	1.8--2.7	2.5-3.2	2.2--3.2	
	16					0.5--0.8	1.5--2.5	2.0--3.0	2.0--3.0	
	18					0.5--0.7	1.0--1.8	1.5--1.9	1.5--2.0	
	20					0.5--0.7	0.9--1.5	1.3--1.8	1.3--1.8	
	25						0.6--0.9	0.6--1.2	0.6--1.2	
	30						0.3--0.8	0.5--1.0	0.5--1.0	
	35						0.3--0.6	0.3--0.8	0.3--0.8	
	40						0.3--0.4	0.3--0.6	0.3--0.5	
"Brass N2"	1	6.0--10	8.0--13	12--18	20--35	35--45	55--65	60-70	65-75	
	2	2.8--3.6	3.0--4.5	6.0--8.5	6.0--10	20--30	38--42	40--45	40--60	
	3		1.5--2.5	2.5--4.0	4.0--6.0	12--18	18--30	20--35	25-40	
	4		1.0--1.6	2.0--3.0	3.0-5.0	8.0--12.0	15--20	18--30	20--35	
	5			0.9--1.2	1.5--2.0	6.0--8.0	10--15	15--20	18--25	
	6				1.0--1.8	3.0--6.5	6.0--8.0	8--15	10--18	
	8					1.6--2.2	5.0--7.0	8.0--10.0	8.0--10.0	
	10					0.8--1.2	4.5--6.0	5.0-6.5	5.0--9.0	
	12					0.3--0.5	2.4--4.0	2.8--4.2	2.8--4.2	
	14						0.8--1.5	1.0--1.8	1.5--5.0	
	16						0.6--1.2	0.8--1.5	1--2.4	
	18						0.4--0.6	0.6--0.8	0.8--2.2	
	20							0.4--0.6	0.4--2.0	
	25								0.3--0.5	

Cutting Capacity

Laser power	Material Thickness	1mm	2mm	3mm	4mm	5mm	6mm	8mm	10mm	12mm	14mm	16mm	18mm	20mm	25mm	30mm	35mm	40mm	45mm	50mm	60mm	70mm	80mm

1500W

2000W

3000W

Legend:
- Carbon steel
- Stainless steel
- Max cutting thickness (long-term using isn't recommended)
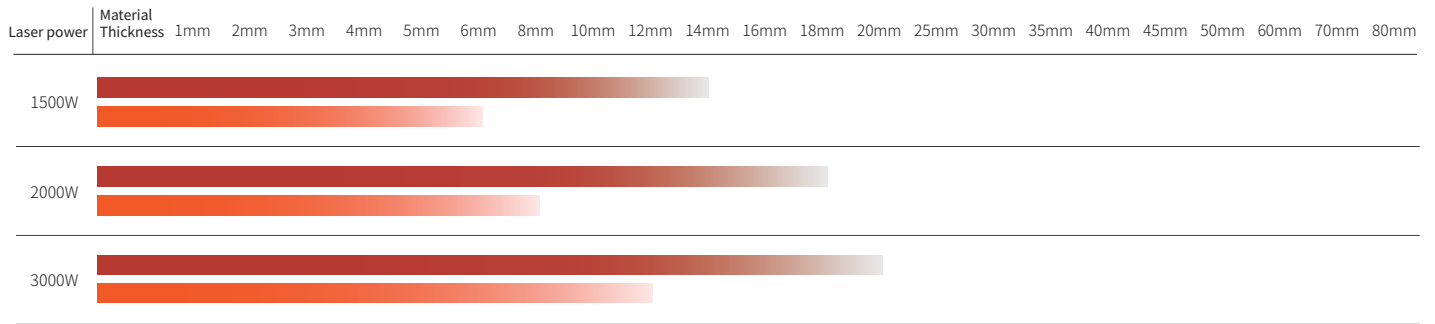
Above data is only for reference

Cutting Samples

bodor
Dare to dream