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AT SERIES

SHEET&TUBE FIBER LASER CUTTING MACHINE

1kW-6kW

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

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THE BLACK GO CHESS

Black Go chess — inspired by Go

Circular — endless loop, endless exploration

Black — derived from obsidian crystal, steady and deep

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SELF-DEVELOPED CONTROL SYSTEM

Advantages

- Bodor Laser independent research and development system, perfect combination with BodorGenius laser head, brings to customers upgraded cutting technology and efficiency.

- BodorThinker
  - 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 newly added batch processin function, in conjunction with the processing database, makes it more convenient in batch cutting.
  - The updated CAM logic and more open CAM function make it more convenient to change drawings, use more comprehensively, and easier to cut.

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ACTIVE OBSTACLE AVOIDANCE FUNCTION

Advantages

- By optimizing the servo algorithm, predicting the obstacles and exerting the optimal performance of the motor can ensure the stability of the cutting process and the sensitivity and speed of the idle motion process;
- When an obstacle is detected, the Z axis responds at a very high speed and avoids obstacles.
- Avoid to interfering cutting caused by the tilted cutting piece and effectively solve the problem of collision of laser head during the thin plate cutting process.

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AUTOMATIC TUBE DETECTION

Advantages

- Optimized edge searching method and algorithm guarantee higher cutting precision and better steadiness.

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INTELLIGENT ANTI-SHAKE OF SHEET EDGE

Advantages

- Avoid the danger of cutting head stall caused by plate shake, keep continuous and high-effective cutting.
- Ensure continuous processing consistency of materials without repeated modification of processing drawings.
- Intelligent identification of various sheet specifications, improve the dynamic performance of the cutting head and quick response.

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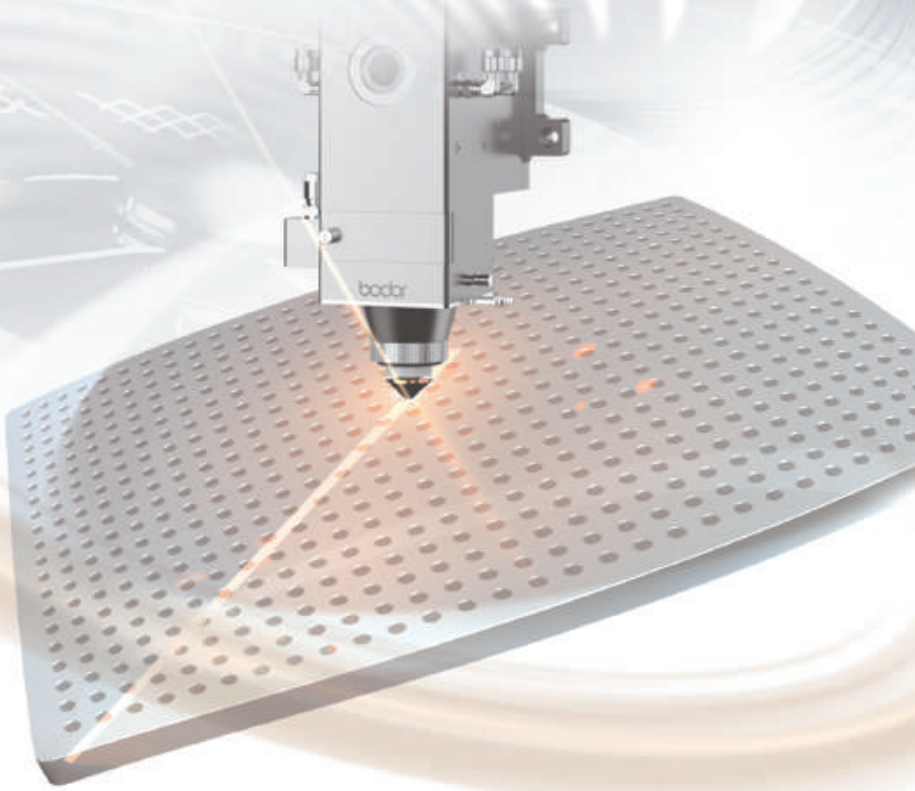
BODOR LIGHTNING PERFORATION TECHNOLOGY



Advantages

- The lightning rapid perforation process reduces perforation time by 90%.
- The perfect combination of lightning rapid perforation process and BodorGenius ensures the laser head complete the whole perforation process during its moving fall.
- No additional action and time to be taken when cutting sheets with medium thickness.

PNEUMATIC CHUCK

Advantages

- Quick clamping improves the work efficiency.
- The clamping force is large, stable and adjustable.
- Strong safety and reliability.

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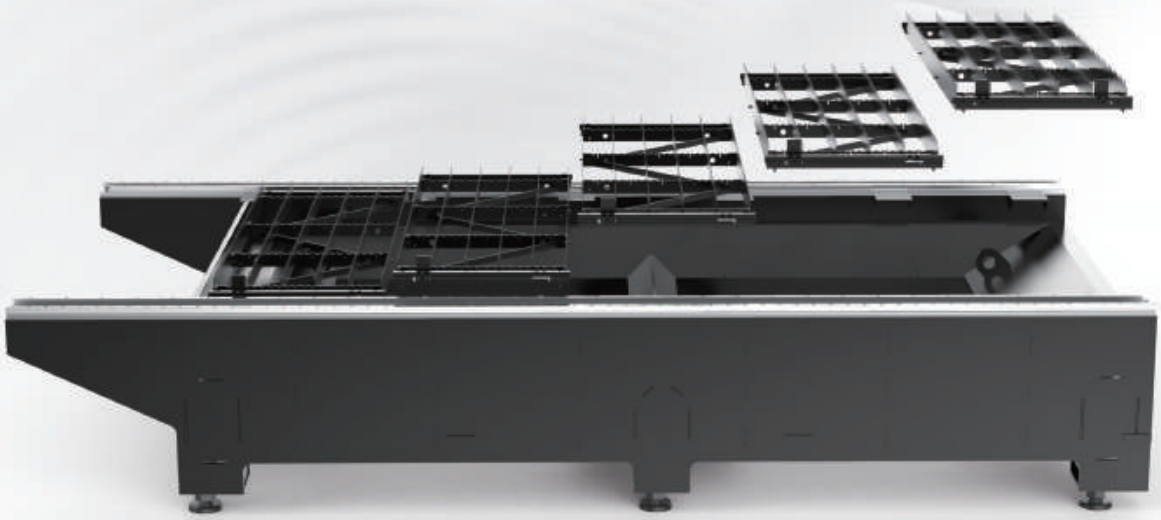
MORTISE-AND-TENON TYPE PLATE WELDED SEGMENTED BED



Advantages

- Using Chinese traditional tenon-and-mortise structure to provide stronger bearing capacity.
- Solder joint fixing and structural bearing ensure long-standing operation stability.
- Welded structure improves shock absorption effect, lowering deviation caused by shock, offering more accurate cutting.
- Brand new modular platform solves deformation problem caused by heat and facilitates parts replacement.

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BODOR GENIUS

Advantages

- The lightweight design ensures excellent acceleration performance and cutting speed.
- Excellent design in air flow and water-cooling structure enables the laser-head to continuously and efficiently operate at high power.
- Built-in drive unit, adjustment accuracy of 0.05mm.
- Collimation mirrors and focus mirrors are all using composite lenses, which can obtain the optimal optical quality and cutting effect.
- Distance detection device has no drift, ensures rapid reaction.

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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

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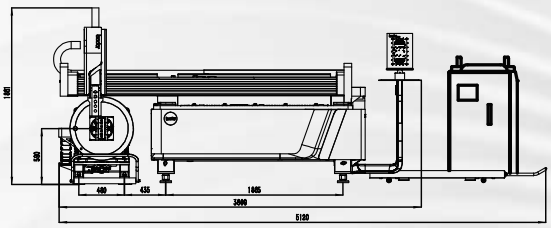
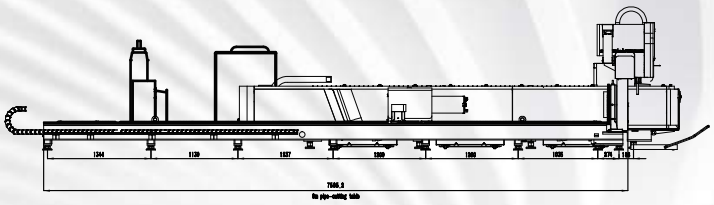
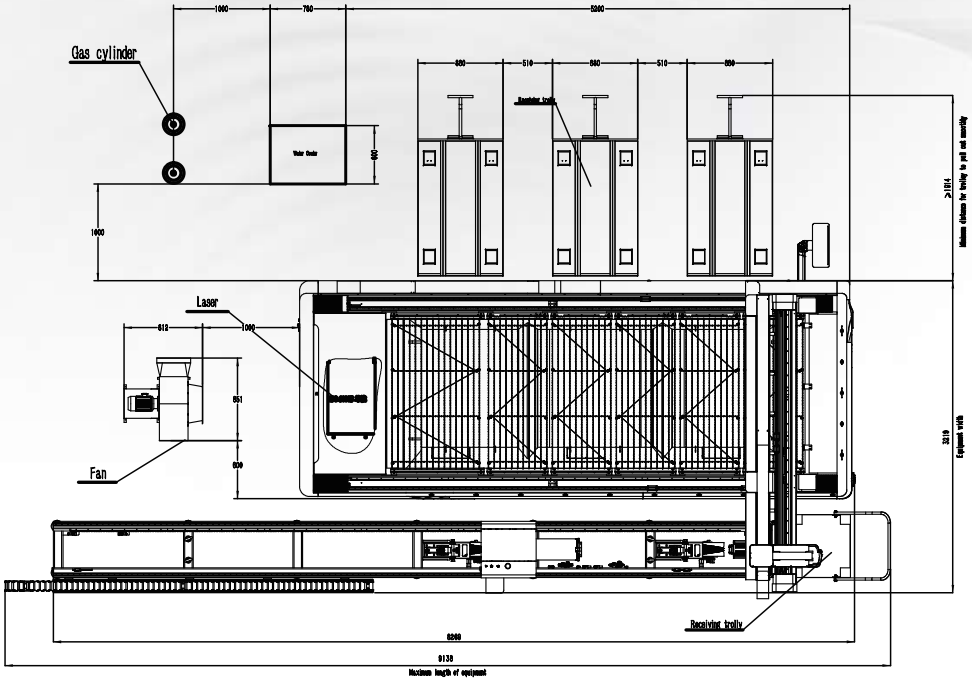
Layout

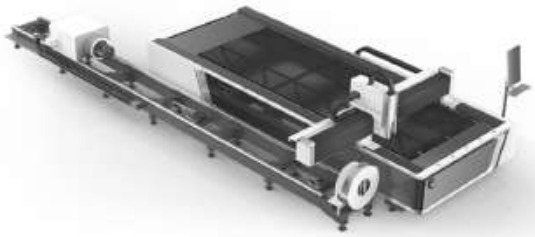






The above layout drawings and figures are for referrence only, the actual drawing shipped with machine prevails.

A3T
3048mm*1524mm



A4T
4000mm*1524mm

A6T
6100mm*1524mm

A6T Plus
6100mm*2500mm

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Technical Data

ITEM	A6T Plus	A6T	A4T	A3T
Working area	6100mm*2500mm	6100mm*1524mm	4000mm*1524mm	3048mm*1524mm
Max. linkage speed	100m/min	100m/min	100m/min	100m/min
Max. acceleration	1.5G	1.5G	1.5G	1.5G
Table load bearing	3000kg	1500kg	950kg	750kg
Machine overall dimensions	8641*4879*1861mm	8641*3810*1861mm	8641*3810*1861mm	8641*3810*1861mm
Overall weight	±7000kg	5300kg	4300kg	3900kg
Z axis travel	315mm	315mm	315mm	315mm
Positioning accuracy	±0.05mm	±0.05mm	±0.05mm	±0.05mm
Repositioning accuracy	±0.03mm	±0.03mm	±0.03mm	±0.03mm
Total power capacity/current with 3KW source	50.6KVA/76.9A	×	×	×
Total power capacity/current with 3KW source	44.3KVA/67.2A	48KVA/72.9A	48KVA/72.9A	48KVA/72.9A
Total power capacity/current with 2KW source	33.2KVA/50.4A	37.8KVA/57.4A	37.8KVA/57.4A	37.8KVA/57.4A
Total power capacity/current with 1.5KW source	32.9KVA/49.9A	32.5KVA/49.4A	32.5KVA/49.4A	32.5KVA/49.4A
Total power capacity/current with 1KW source	×	×	29.1KVA/44.3A	29.1KVA/44.3A

Configuration And Components

laser head	Bodor Genius
Laser source	Bodor Power
Machine bed	Mortise-and-tenon type plate welded segmented bed
Gantry structure	pneumatic chuck
X-axis、Y-axis、Z-axisServo motor and driver	BODOR
Linear Rails	BODOR
Rack	BODOR
Control system	Bodor Thinker
Display size	21.5 inches
Water Chiller	●

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Cutting Parameters

		1000W	1500W	2000W	3000W	6000W	12kW	20kW	30kW
	Thickness	speed m/min	speed m/min	speed m/min	speed m/min	speed m/min	speed m/min	speed m/min	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
	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
	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
	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
	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
	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
	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--3.9	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	2.0--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	1.6--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--3.6	1.6-3.6
	16			0.6-0.8	0.7--1.0	0.8--1.5	1.2--3.1	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	1.4--3.4	1.4--3.4
	20				0.5--0.8	0.5--0.8	0.6--2.4	1.5--3.3	1.5--3.3
	25					0.3--0.55	0.5--1.6	1.0-2.8	1.0-2.8
	30						0.3--1.0	0.8--2.0	1.2-2.0
	35						0.3--0.7	0.6--0.9	0.9--1.1
	40						0.2--0.4	0.5--1.0	0.8-1.0
	45						0.2--0.3	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
	2	5--7.5	8.0--12	9.0--15	13--21	20--33	40--66	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--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--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	22--30	25--32
	6		0.7--1.0	1.2-2.0	2.0--4.0	4.8--9.0	12--15	17--25	18-26
	8			0.7-1.0	1.5--2.0	3.0--4.0	8--12	12--18	15-20
	10				0.6--0.8	1.6--2.5	6.0--8.0	8.0--12.0	12--15
	12				0.4--0.6	0.8--1.5	4.0--5.5	6.0--8.5	8--12
	14					0.6--1.2	3.0--5.0	5.0--7.0	6--10.5
	16					0.5--1.0	2.2--2.8	3.0--5.0	5--9
	18					0.4--0.8	1.2--2.0	1.8--2.7	3--6.5
	20					0.3--0.6	1.0--1.6	1.5--3.2	2--4.7
	25						0.5--0.8	1.5--2.0	1.8-2.5
	30						0.3--0.6	1.0--1.5	1.5--1.8
	35						0.3--0.5	0.4--0.8	1.0-1.5
	40						0.3--0.5	0.3--0.6	0.6-1.3
	45							0.2--0.6	0.8-1.0
	50							0.2--0.5	0.25-0.5
	60							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	
	2	2.8--3.6	5.0--7.0	10--15	10--18	20--40	38--50	40--70	
	3		2.0--4.0	5.0--7.0	6.5--8.0	15--25	30--40	35--60	
	4		1.0--1.5	3.5--5.0	3.5--5.0	9.5--12	20--30	30--43	
	5			1.8--2.5	2.5--3.5	5.0--8.0	15--25	20--32	
	6			1.0--1.5	1.5--2.5	3.8--5.0	10--15	15--26	
	8				0.7--1.0	2.0--2.5	7.0--12	10--18	
	10				0.4--0.7	1.0--1.5	4.5--8.0	6.0--10.0	
	12					0.8--1.3	4.0--5.0	4.0--6.0	
	14					0.9--1.2	1.8--2.7	2.2--3.2	
	16					0.5--0.8	1.5--2.5	2.0--3.0	
	18					0.5--0.7	1.0--1.8	1.5--2.0	
	20					0.5--0.7	0.9--1.5	1.3--1.8	
	25						0.6--0.9	0.6--1.2	
	30						0.3--0.8	0.5--1.0	
	35						0.3--0.6	0.3--0.8	
	40						0.3--0.4	0.3--0.5	
"Brass N2"	1	6.0--10	8.0--13	12--18	20--35	35--45	55--65	65-75	
	2	2.8--3.6	3.0--4.5	6.0--8.5	6.0--10	20--30	38--42	40--60	
	3		1.5--2.5	2.5--4.0	4.0--6.0	12--18	18--30	25-40	
	4		1.0--1.6	2.0--3.0	3.0-5.0	8.0--12.0	15--20	20--35	
	5			0.9--1.2	1.5--2.0	6.0--8.0	10--15	18--25	
	6				1.0--1.8	3.0--6.5	6.0--8.0	10--18	
	8					1.6--2.2	5.0--7.0	8.0--10.0	
	10					0.8--1.2	4.5--6.0	5.0--9.0	
	12					0.3--0.5	2.4--4.0	2.8--4.2	
	14						0.8--1.5	1.5--5.0	
	16						0.6--1.2	1--2.4	
	18						0.4--0.6	0.8--2.2	
	20							0.4--2.0	
	25							0.3--0.5	

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Tube Cutting Parameters

		1000W	1500W	2000W	3000W	6000W
	Thickness (mm)	speed m/min	speed m/min	speed m/min	speed m/min	speed m/min
Carbon steel	1	12--15	17--19	16--20	18--21	18--21
	2	5--7	6--8	8--10	10--12	15-20
	3	2--3	2.5--3.5	3.0--4.8	3.5--5	3.8--5.5
	4	2--2.4	2.3--2.8	2.8--3.5	3--3.8	3.2--4.3
	5	1--1.6	1.8--2.4	2.5--3	2.6--3.2	3--4
	6	1.1--1.4	1.4--1.8	1.8--2.2	1.9--2.4	2.5--3.5
	8	0.8--1.1	1--1.4	1.4--1.8	1.6--2	2--3
	10	0.6--0.9	0.8--1.1	1.0--1.3	1.2--1.6	1.3--2.2
	12	0.6--0.7	0.6--0.9	0.8--1	0.9--1.3	1.2--1.7
	14		0.5--0.6	0.6--0.7	0.8--1	0.9--1.3
	16				0.6--0.9	0.6--1.1
	18				0.5--0.6	0.5--0.7
	20					
Stainless steel	1	12--16	15--20	20--24	23--28	23--28
	2	7--9	9--12	10--15	14--18	20--22
	3	2--2.5	2--3	3--4	4.2--5.4	8--10
	4	0.6--0.9	1.2--1.5	2--3	2.8--3.6	9--12
	5		0.6--0.9	1.2--1.6	1.8--2.4	6--8
	6		0.5--0.6	0.8--1.1	1--1.5	4--5.5
	8			0.5--0.6	0.8--1.2	2--3
	10				0.4--0.6	1--1.5
	12					0.5--1
	14					0.4--0.7
	16					0.2--0.4
	18					0.2--0.4
	20					

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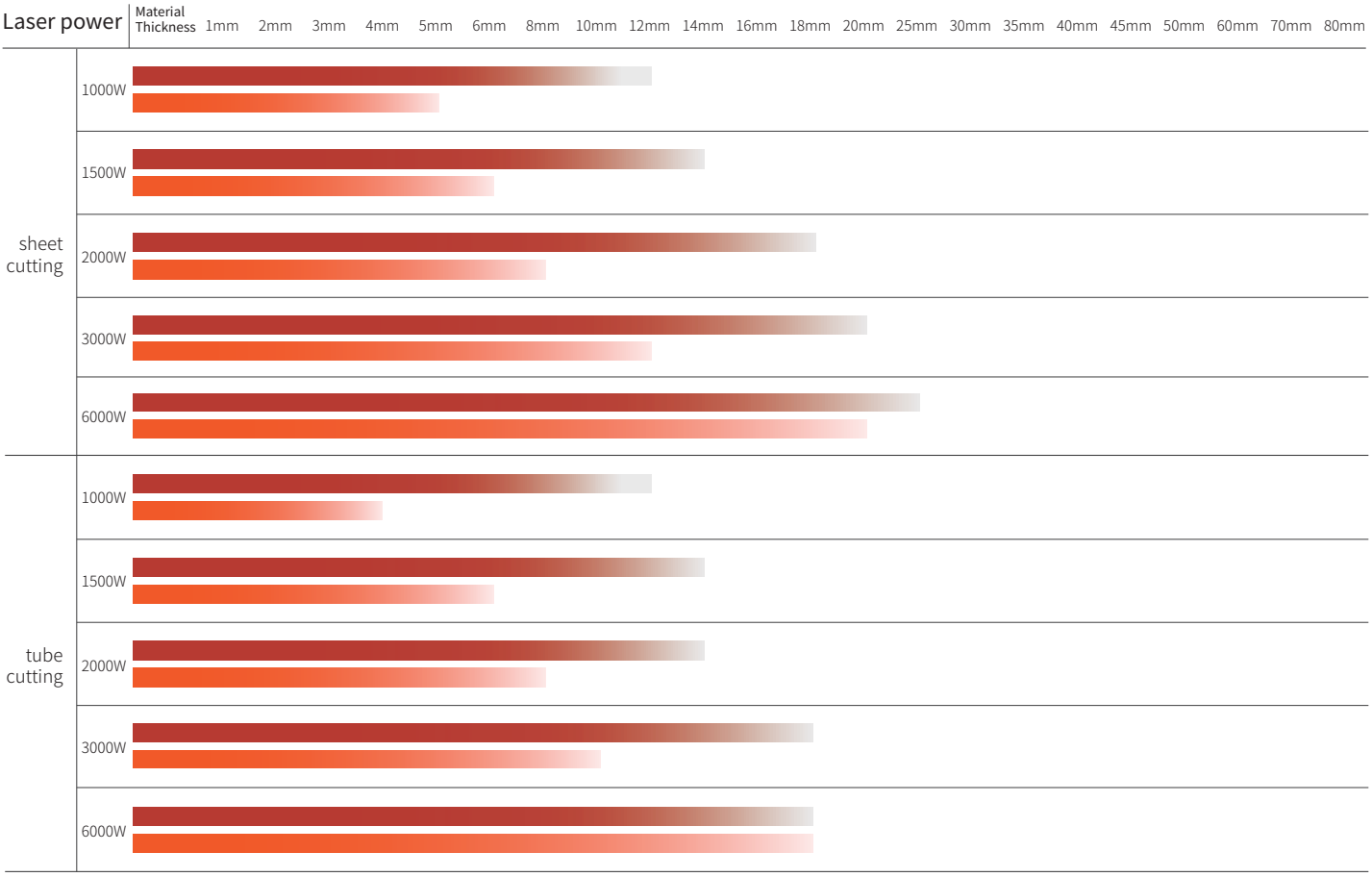
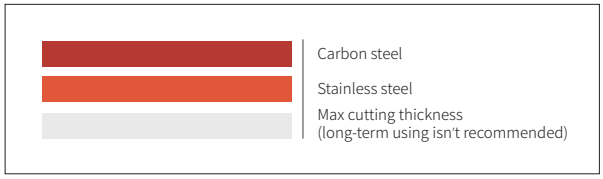
Cutting Capacity





Above data is only for reference

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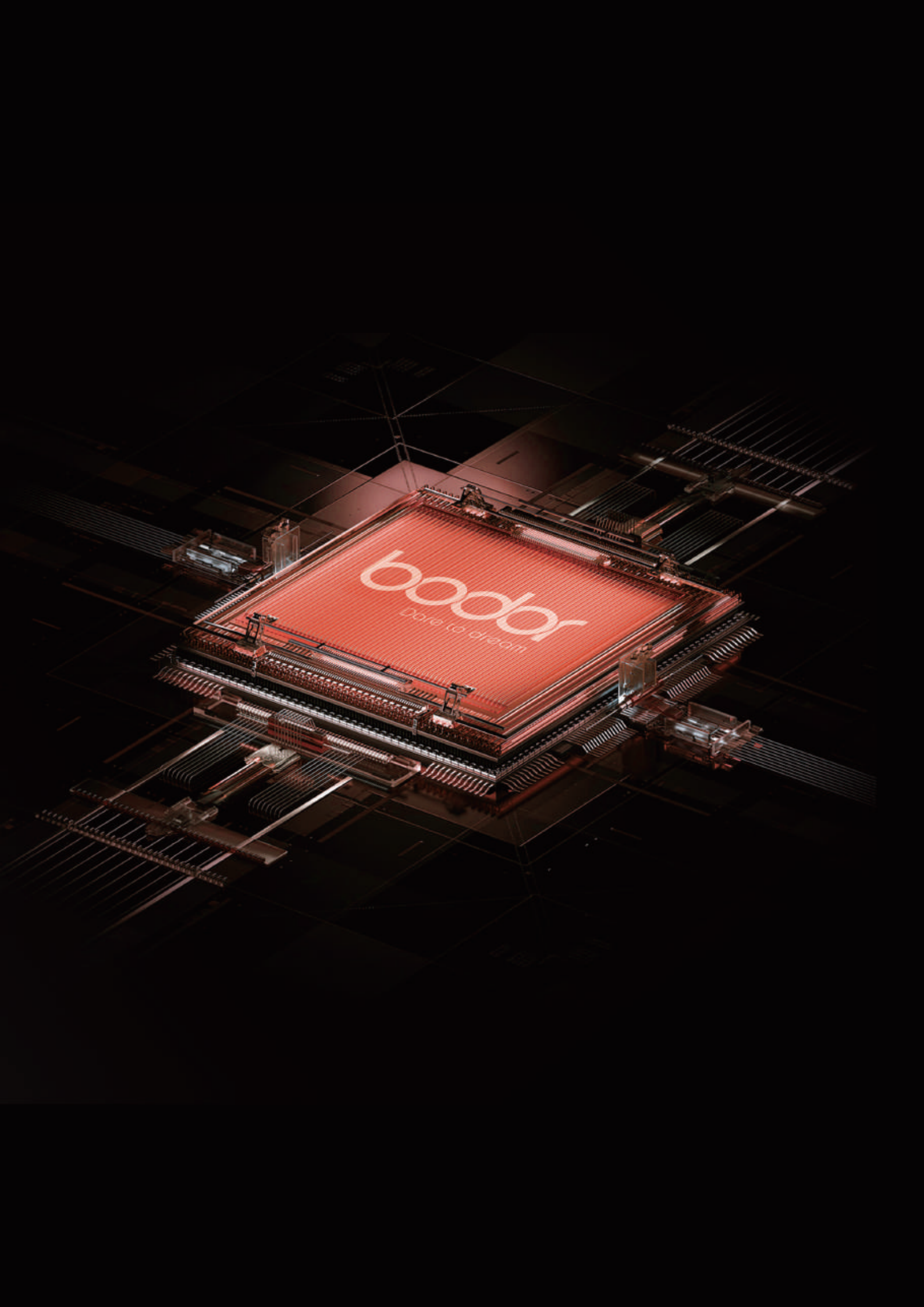
Cutting Samples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