bodor
Dare to dream

A SERIES

SINGLE PLATFORM LASER CUTTING MACHINE

A3/A4/A6: 1kW-6kW, A14: 3kW-22kW
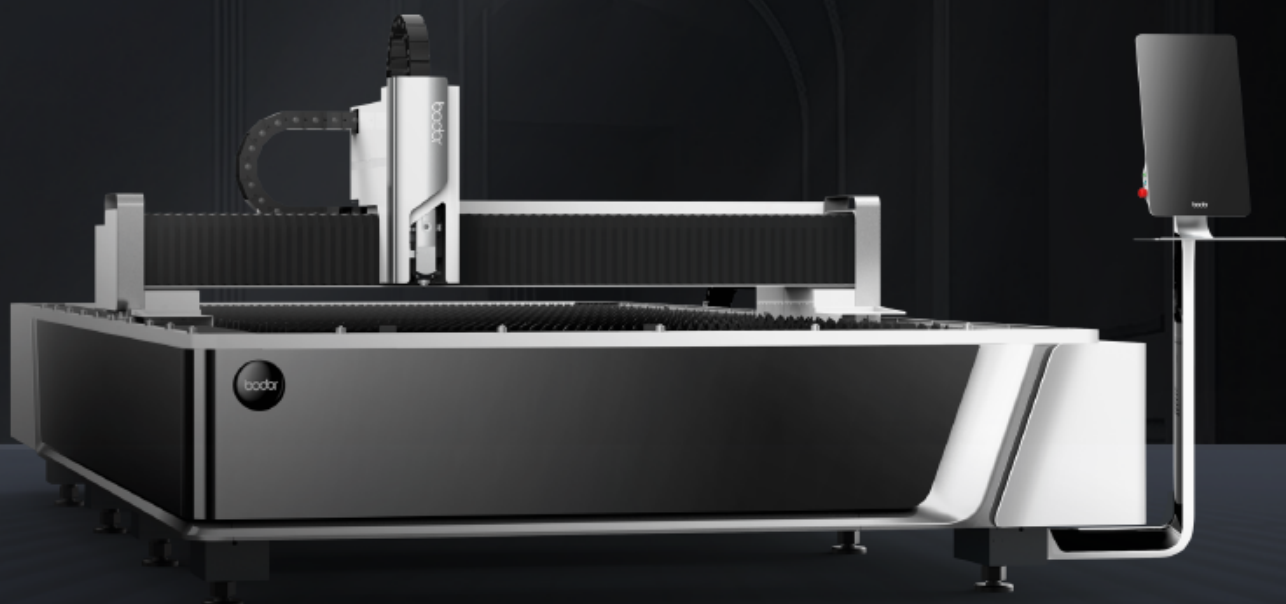
ETHERCAT BUS CONTROL

Advantages

◉ The synchronization time of each axis is controlled within 1 microsecond; And the axis is more responsive and with higher control accuracy when using the bus to control multiaxis linkage.

◉ Easy installation and maitenance, the signal interference problem caused by a large number of wiring is avoided.

◉ Maximum acceleration increased by 50%, and work efficiency increased by 30%;

BODOR THINKER3.0

Advantages

- High-end intelligent system, stable and reliable, easy to setup and debug, keep safe in production, rich in functions, and excellent in performance.

- It supports modular, personalized, automated, and informatized solutions.

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.

BODOR LIGHTNING PERFORATION TECHNOLOGY
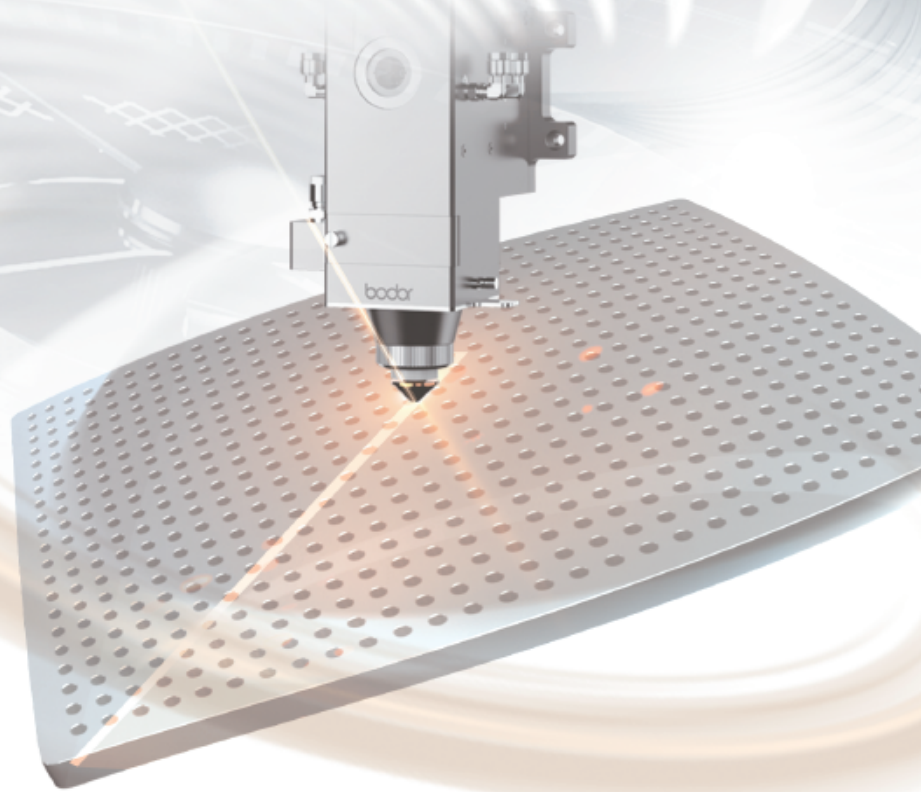
Advantages

◉ 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.

AUTOMATIC LUBRICATION
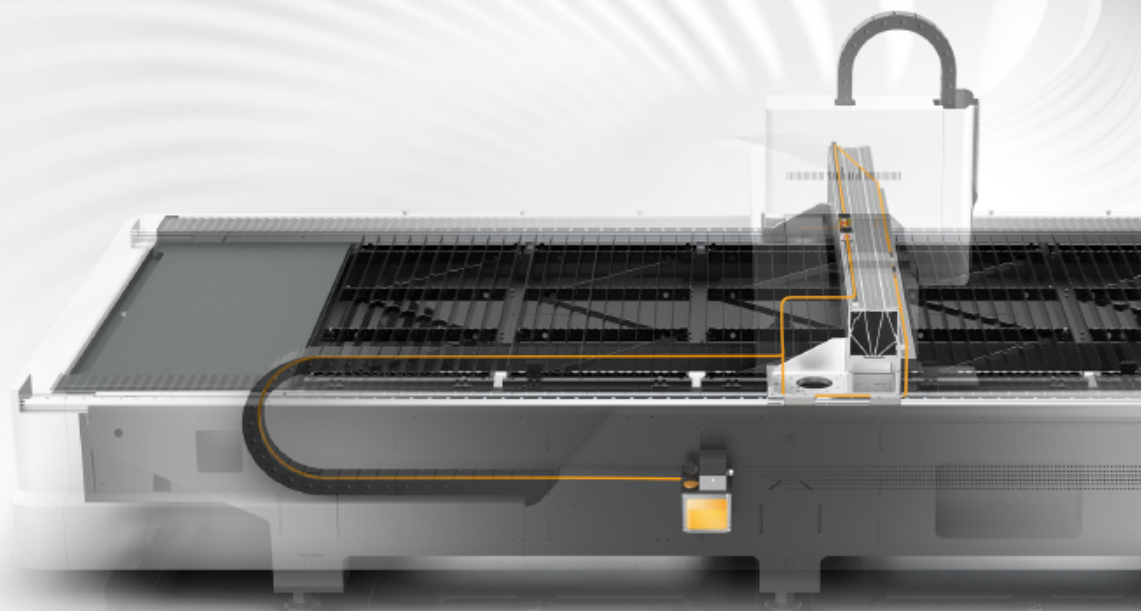
Advantages

- **Lubrication:** Immediate replenishment for the loss of lubrication oil greatly extends the interval of lubrication maintenance, which improves the accuracy and service life of the equipment.

- **Automatic:** Automatically supplied lubricant to the slider, only need to replace the oil pot for the maintenance, easy and fast.

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.

MORTISE-AND-TENON TYPE PLATE WELDED SEGMENTED BED
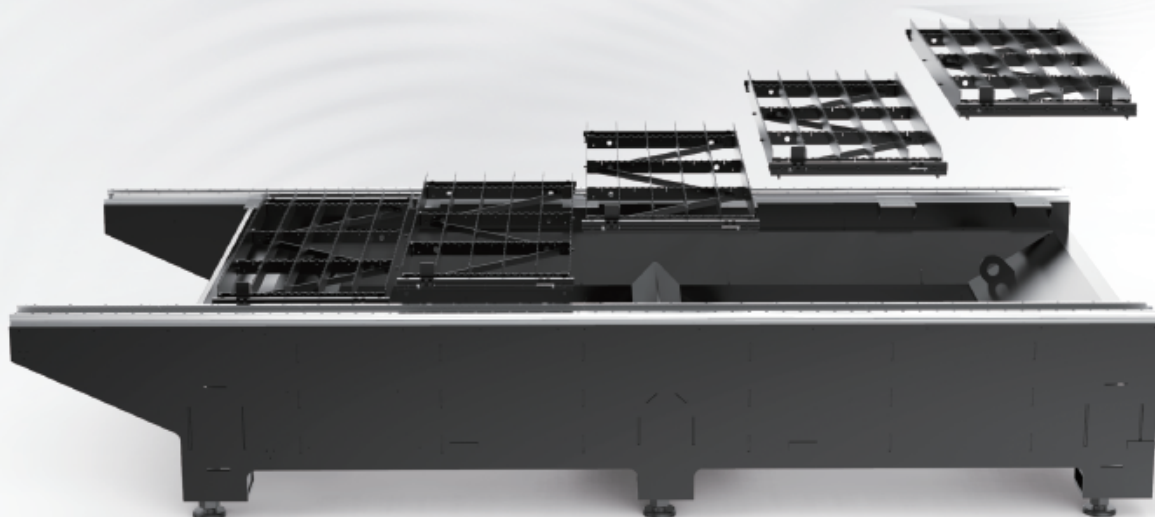
Advantages

● 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.

STRETCHED ALUMINUM GANTRY

Advantages

◉ Adopt aviation-level aluminum with rigidity enhanced by 60%, high temperature resistance, improve the operation stability.

◉ Aviation-level aluminum is of light weight with overall weight reduced by 20%, to meet the need of high operation speed and precision of the gantry, and not easy to deformation.

◉ Processed by 10000 tons extrusion technology, ensures excellent mechanical performance of the gantry, reduce the failure rate.

BODORGENIUS

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, the automatic focus adjustment range is +10~ -12 mm, 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.

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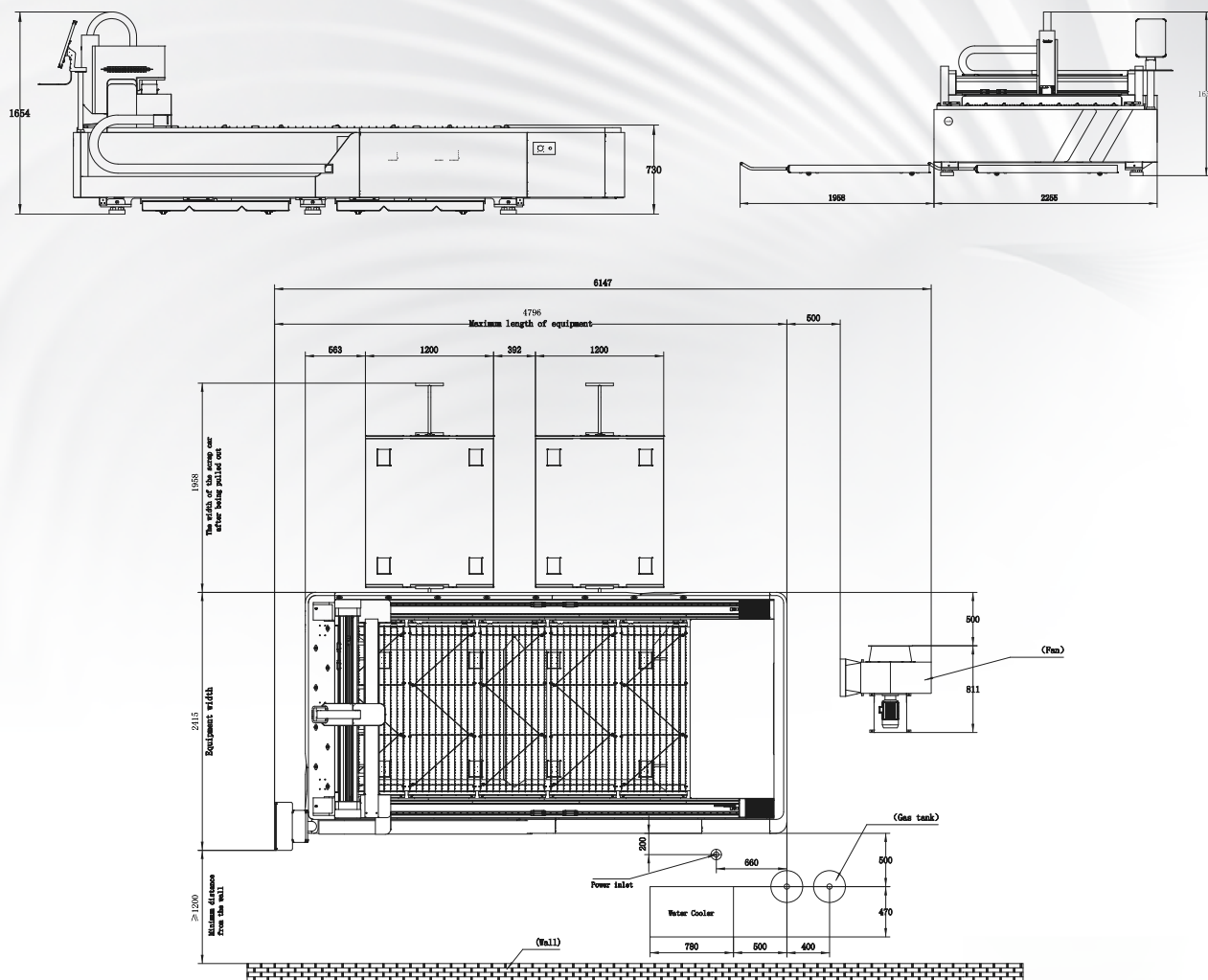
The above layout drawings and figures are for referrence only, the actual drawing shipped with machine prevails.

A3
3048mm*1524mm

A4
4000mm*1524mm

A4P
4000mm*2000mm

A6
6100mm*1524mm

A6P
6100mm*2500mm

A14
14000mm*3100mm
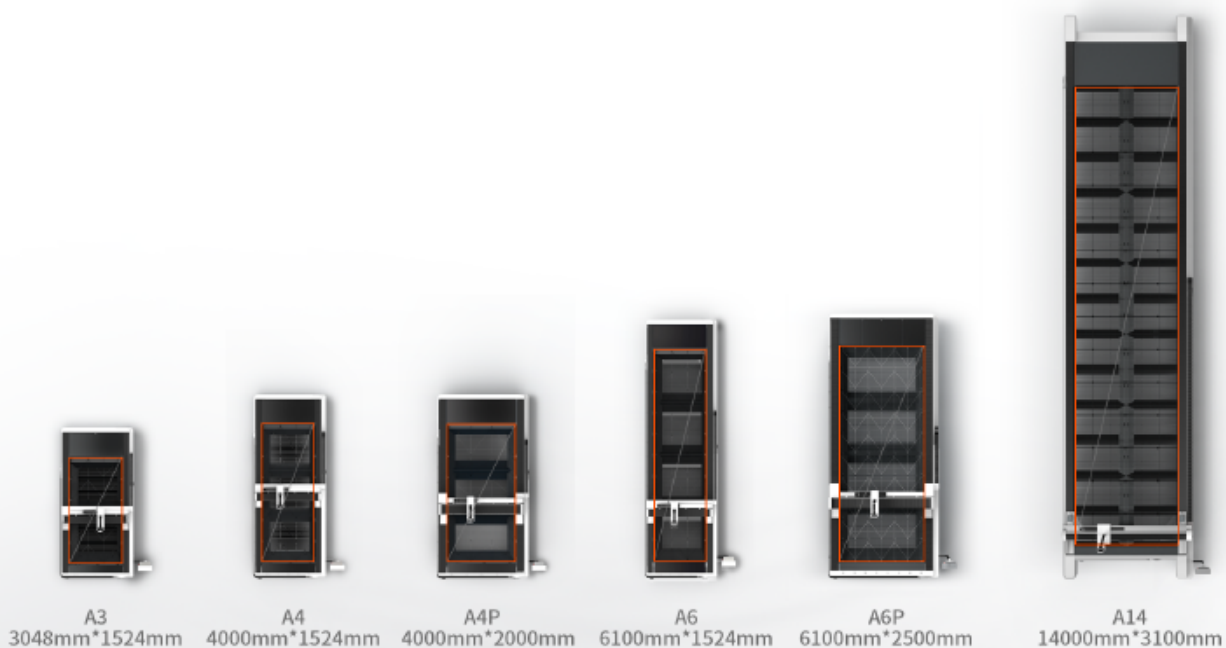
Technical Data

ITEM	A14	A6 Plus	A6	A4 Plus	A4	A3
Working area	14000mm*3100mm	6100mm*2500mm	6100mm*1524mm	4000mm*2000mm	4000mm*1524mm	3048mm*1524mm
Max. linkage speed	100m/min	100m/min	100m/min	100m/min	100m/min	100m/min
Max. acceleration	1.5G	1.5G	1.5G	1.5G	1.5G	1.5G
Table load bearing	10000kg	2400kg	1500kg	1300kg	950kg	750kg
Machine overall dimensions	17400*4000*2000	8154*3389*1830	8100*2247*1755	5726*2840*1828	5726*2247*1755	4670*2247*1755
Overall weight	est. 18000kg	est. 4200kg	est. 3400kg	est.2800kg	est. 2500kg	est. 2100kg
Z axis travel	120mm	110mm	110mm	110mm	110mm	110mm
Positioning accuracy	±0.05mm/m	±0.05mm	±0.05mm	±0.05mm	±0.05mm	±0.05mm
Repositioning accuracy	±0.03mm	±0.03mm	±0.03mm	±0.03mm	±0.03mm	±0.03mm
Total power capacity/current with 22KW source	153.3KVA/234.3A	×	×	×	×	×
Total power capacity/current with 20KW source	150.3KVA/228.3A	×	×	×	×	×
Total power capacity/current with 12KW source	106.4KVA/161.6A	×	×	×	×	×
Total power capacity/current with 6KW source	71.6KVA/108.8A	×	×	×	×	×
Total power capacity/current with 3KW source	55.9KVA/84.9A	41.8KVA/63.4A	39.3KVA/59.6A	40.5KVA/61.5A	39.3KVA/59.6A	39.3KVA/59.6A
Total power capacity/current with 2KW source	×	30.7KVA/46.6A	28.2KVA/42.8A	29.4KVA/44.7A	28.2KVA/42.8A	28.2KVA/42.8A
Total power capacity/current with 1.5KW source	×	30.4KVA/46.2A	27.9KVA/42.4A	29.1KVA/44.3A	27.9KVA/42.4A	27.9KVA/42.4A
Total power capacity/current with 1KW source	×	×	×	×	21.1KVA/32.1A	21.1KVA/32.1A

Configuration And Components

laser head	12KW and below：BodorGenius 12KW above：Germany Precitec	BodorGenius				
Laser source	BODOR/IPG					
Machine bed	Mortise-and-tenon type plate welded segmented bed					
Gantry structure	Triangular type ultra-high pressure honeycomb aluminum gantry	Stretched Aluminum gantry				
X-axis、Y-axis、Z-axisServo motor and driver	BODOR					
Linear Rails	BODOR					
Protective Enclosure	BODOR					
Control system	BodorThinker 3.0					
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	●	●	●	●	●	●

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--0.5	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

Carbon steel
Stainless steel
Max cutting thickness
(long-term using isn't recommended)
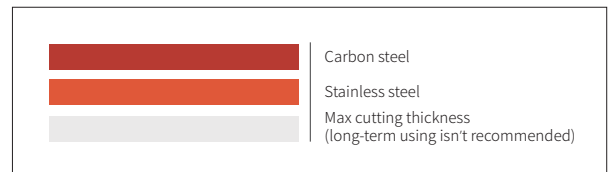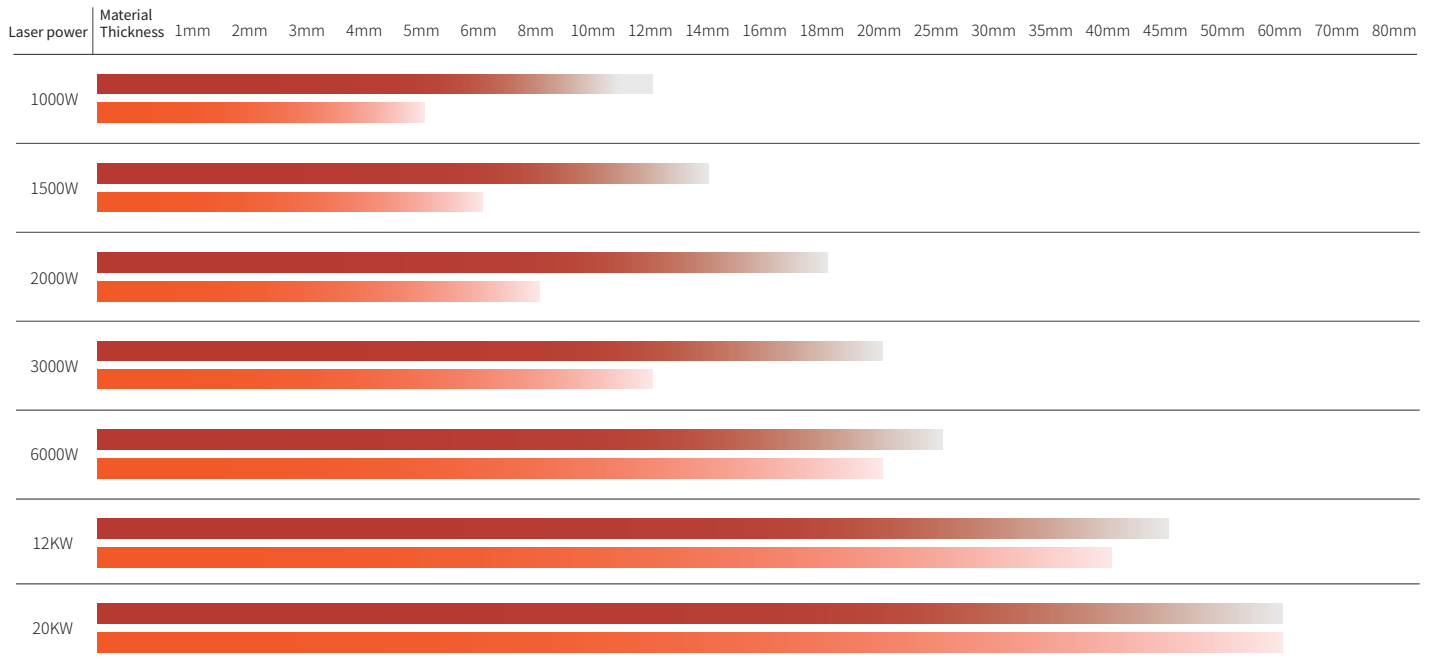
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