Ascent Fiber laser cutter specification:

Cutting gases: liquid oxygen (99.6% purity) and liquid nitrogen (99.995% purity);
Due to differences in equipment configurations and cutting processes (machine tools, water cooling, environment, cutting nozzles, and gas pressure, etc.) used by different customers, this data is for reference only.

3000W	mm	m/min	Focus position	mm		Nozzle type	bar	Laser power W	Cutting frequency Hz	Duty cycle%	Cutting effect
Carbon steel Q235B	1	38~40	0~-0.5	0.5	N2	single layer 1.0	12~16	3000	5000	100	Glossy
	2										
	3	4~4.2	4.5~5.5	0.8	O2	Double layer: 1.0	0.6~0.9	3000	5000	100	
	4	3.3~3.5	4.5~5.5	0.8	O2	Double layer: 1.2	0.6~0.9	3000	5000	100	
	6	2.3~2.5	4.5~5.5	0.8	O2	Double layer: 1.2	0.6~0.9	3000	5000	100	
	8	2.1~2.2	4.5~5.5	0.8	O2	Double layer: 1.2	0.6~0.9	3000	5000	100	
	10	1.5~1.7	2~3	1.5	O2	Double layer: 3.0	0.6~0.9	2200~2400	5000	100	Frosted surface
	12	1.2~1.4	2~3	1.5	O2	Double layer: 3.0	0.6~0.9	2200~2400	5000	100	
	14	1~1.1	2~3	1.5	O2	Double layer: 4.0	0.6~0.9	2200~2400	5000	100	
	16	0.85~0.9	2~3	1.5	O2	Double layer: 4.0	0.6~0.9	2200~2400	5000	100	
	18	0.7~0.75	2~3	1.5	O2	Double layer: 4.0	0.6~0.9	2200~2400	5000	100	
	20	0.6~0.65	2~3.5	1.5	O2	Double layer: 4.0	0.6~0.9	2200~2400	5000	100	
	22	0.5~0.55	2~3.5	1.5	O2	Double layer: 4.0	0.6~0.9	2200~2400	5000	100	
	25	0.45~0.5	2~3.5	1.5	O2	Double layer: 5.0	0.6~0.9	2200~2500	5000	100	
Stainless steel SUS304	1	35~37	0~-1	0.5	N2	single layer: 1.0/1.2/1.5	12~16	3000	5000	100	No residue
	2	13~15	-1.5~-2	0.5	N2	single layer: 1.5/2.0	12~16	3000	5000	100	
	3	7~8	-2.5~-3	0.5	N2	single layer: 2.0/2.5/3.0	16~20	3000	5000	100	
	4	4.5~5.5	-3.5~-4	0.5	N2	single layer 3.0	16~20	3000	5000	100	
	6	1.7~1.9	-5~-5.5	0.5	N2	single layer: 3.5/4.0	16~20	3000	5000	100	
	8	0.8~1.0	-6~-7	0.5	N2	single layer: 4.0	16~20	3000	5000	100	
	10	0.6~0.7	-7.5~-8.5	0.5	N2	single layer: 4.0	16~20	3000	5000	100	A small amount of slag
Aluminum 6061	1	30~33	-0.5~-1	0.5	N2	single layer: 1.0/1.2/1.5	12~16	3000	5000	100	
	2	10~12	-1~-1.5	0.5	N2	single layer:	12~16	3000	5000	100	

						1.5/2.0					
	3	5.5~5.9	-2.5~-3	0.5	N2	single layer: 2.0/2.5/3.0	16~20	3000	5000	100	
	4	2.8~3.2	-3.5~-4	0.5	N2	single layer: 3.0	16~20	3000	5000	100	
	6	0.7~0.8	-5~-5.5	0.5	N2	single layer: 3.5/4.0	16~20	3000	5000	100	
	8	0.5~0.6	-6~-7	0.5	N2	single layer: 4.0	16~20	3000	5000	100	

6000W	**mm**	**Speed m/min**	**Focus position**	**Cutting height mm**	**Gas**	**Nozzle type**	**air pressure bar**	**Laser power W**	**Cutting frequency Hz**	**Duty cycle %**	**Cutting effect**
Q235B Carbon steel	1	46~48	0	0.5	N2	single layer: 2.0	12~16	6000	5000	100	Glossy
	2	35~37	-1.5	0.5	N2	single layer: 2.0	12~16	6000	5000	100	
	3	4.2~4.5	4.0~5.5	0.6~0.8	O2	Double layer: 1.0/1.2	0.7~0.9	3000~3200	5000	100	
	4	3.5~3.7	4.0~5.5	0.6~0.8	O2	Double layer: 1.0/1.2	0.7~0.9	3900~4200	5000	100	
	5	3.2~3.3	4.0~5.5	0.6~0.8	O2	Double layer: 1.0/1.2	0.7~0.9	4000~4200	5000	100	
	6	2.6~2.8	4.0~5.5	0.6~0.8	O2	Double layer: 1.0/1.2	0.7~0.9	4000~4200	5000	100	
	8	2.4~2.5	5.5~6.5	0.6~0.8	O2	Double layer: 1.2	0.7~0.9	4000~4200	5000	100	
	10	2.2~2.3	5.5~6.5	0.6~0.8	O2	Double layer: 1.2	0.7~0.9	6000	5000	100	
	12	1.9~2.0	6~7	0.6~0.8	O2	Double layer: 1.2	0.7~0.9	6000	5000	100	
	14	0.9~1.0	4.0~5.5	0.6~1.2	O2	Double layer: 3.0	0.7~0.9	2200~2600	5000	100	Frosted surface
	16	0.8~0.9	3.0~5.5	1.2~1.5	O2	Double layer: 3.0/3.5	0.7~0.9	2200~2600	5000	100	
	18	0.7~0.8	3.0~4.5	1.2~1.5	O2	Double layer: 3.5/4.0	0.7~0.9	2200~2600	5000	100	
	20	0.6~0.65	2~3.5	1.2~1.5	O2	Double layer: 4.0	0.7~0.9	2200~2600	5000	100	
	22	0.55~0.6	2~3.5	1.2~1.5	O2	Double layer: 4.0	0.7~0.9	2200~2600	5000	100	
	25	0.5~0.55	2~3.5	1.2~1.5	O2	Double layer: 5.0	0.7~0.9	2200~2600	5000	100	
	1	45~47	0~-1	0.5	N2	single layer: 1.5	12~16	6000	5000	100	
	2	35~37	-1.5~-2	0.5	N2	single layer: 2.0	12~16	6000	5000	100	
	3	18~20	-2.5~-3	0.5	N2	single layer:	12~16	6000	5000	100	

S304 Stainless steel						2.0					
	4	14~15	-3.5~-4	0.5	N2	single layer: 2.0	12~16	6000	5000	100	No residue
	5	8~10	-3.5~-4	0.5	N2	single layer: 2.0	12~16	6000	5000	100	
	6	6~6.5	-5~-5.5	0.5	N2	single layer: 3.0	12~16	6000	5000	100	
	8	4~4.2	-6~-7	0.5	N2	single layer: 3.0	16~20	6000	5000	100	
	10	1.8~2.0	-7.5~-8.5	0.5	N2	single layer: 3.0	16~20	6000	5000	100	
	12	1.1~1.3	-7.5~-8.5	0.5	N2	single layer: 3.5	16~20	6000	5000	100	
	14	0.9~1.0	-9~-10	0.5	N2	single layer: 3.5	16~20	6000	5000	100	
	16	0.8~0.85	-10~-11	0.5	N2	single layer: 4.0	16~20	6000	5000	100	A small amount of slag
	20	0.5~0.6	-11~-13	0.5	N2	single layer: 5.0	16~20	6000	5000	100	
Aluminum 6061	1	50~52	0~-1	0.5	空气	single layer: 1.5	12~16	6000	5000	100	
	2	28~29	-1.5~-2	0.5	空气	single layer: 2.0	12~16	6000	5000	100	
	3	15~17	-2.5~-3	0.5	空气	single layer: 2.0	12~16	6000	5000	100	
	4	9~10	-3.5~-4	0.5	空气	single layer: 2.0	12~16	6000	5000	100	
	5	6~6.5	-3.5~-4	0.5	空气	single layer: 2.5	12~16	6000	5000	100	
	6	4.5~5	-5~-5.5	0.5	空气	single layer: 2.5	12~16	6000	5000	100	
	8	2.8~2.9	-6~-7	0.5	空气	single layer: 2.5 or 3.0	16~20	6000	5000	100	
	10	1.9~2	-7.5~-8.5	0.5	空气	single layer: 3.0 or 3.5	16~20	6000	5000	100	
	12	1.1~1.2	-7.5~-8.5	0.5	空气	single layer: 3.0 or3.5	16~20	6000	5000	100	
	14	0.8~1.0	-9~-10	0.5	空气	single layer: 3.0 or3.5	16~20	6000	5000	100	
	16	0.5~0.6	-9~-10	0.5	空气	single layer: 4.0	16~20	6000	5000	100	
Brass	1	45~55	0~-1	0.5	N2	single layer: 1.5	12~16	6000	5000	100	
	2	25~35	-1.5~-2	0.5	N2	single layer: 2.0	12~16	6000	5000	100	

	3	17~20	-2.5~-3	0.5	N2	single layer: 2.0	16~20	6000	5000	100	
	4	10~12	-3.5~-4	0.5	N2	single layer: 2.0	16~20	6000	5000	100	
	5	7~8	-3.5~-4	0.5	N2	single layer: 2.5	16~20	6000	5000	100	
	6	5~6	-5~-5.5	0.5	N2	single layer: 2.5	16~20	6000	5000	100	
	8	2~3	-6~-7	0.5	N2	single layer: 2.5或3.0	16~20	6000	5000	100	
	10	1.6~2	-7.5~-8.5	0.5	N2	single layer: 3.0 or3.5	16~20	6000	5000	100	
	12	1.3~1.7	-7.5~-8.5	0.5	N2	single layer: 3.0 or3.5	16~20	6000	5000	100	
	14	0.8~1.0	-9~-10	0.5	N2	single layer: 3.0 or 3.5	16~20	6000	5000	100	
	16	0.5~0.6	-9~-10	0.5	N2	single layer: 4.0	16~20	6000	5000	100	