

12kW Fiber Laser Cutting Parameters (Reference Only)

Material (Gas)	Thickness (mm)	Cutting Speed (m/min)	Gas Pressure (bar)	Nozzle (mm)
Carbon Steel (Oxygen)	1	9.5-10	2.5	1
	2	5.5-6.5	2.5	1
	3	3.6-4.5	2.5	1
	4	3.5-3.9	0.6	1
	5	3.2-3.5	0.6	1
	6	2.6-3.2	0.6	1
	8	2.1-2.8	0.7	1.2
	10	2-3.5	0.7	1.2
	12	1.9-3.4	0.7	1.2
	14	1.8-3.3	0.7	1.4
	16	1.6-3.2	0.7	1.4
	20	1.3-3.0	0.7	1.6
	22	1-1.2	1.3	1.8E
	25	0.7-0.9	0.8	1.5SP
	30	0.4-0.5	1.5	1.8E
Carbon Steel (Air)	1	50-60	12	1.5S
	2	35-40	12	2.0S
	3	28-33	13	2.0S
	4	20-24	13	2.5S
	5	15-18	13	2.5S
	6	10-13	13	2.5S
	8	7-10	13	3.0S
	10	6-6.5	13	4.0S
Carbon Steel (Nitrogen)	1	50-60	12	1.5S
	2	35-40	12	2.0S
	3	28-33	13	2.0S
	4	20-24	13	2.5S
	5	15-18	13	2.5S
	6	10-13	13	2.5S
	8	7-10	13	3.0S
	10	6-6.5	13	4.0S
Stainless Steel (Nitrogen)	1	50-60	10	2.5
	2	35-40	10	2.5
	3	30-35	10	3.5
	4	30-32	10	3.5
	5	24-28	10	3.5
	6	23-25	7	3.5
	8	14-18	7	3.5

	10	10-15	7	3.5
	12	9-12	7	3.5
	14	7-8.5	7	5
	16	5-7	7	5
	18	3-5.2	7	5
	20	1.2-1.4	6	7.0B
	25	0.7-0.9	6	7.0B
	30	0.25-0.3	10	7.0B
Stainless Steel (Air)	1	50-60	10	2.0S
	2	40-45	10	2.5S
	3	30-35	10	2.5S
	4	22-28	10	3.5B
	5	16-19	10	3.5B
	6	14-17	10	3.5B
	8	9-11	10	3.5B
	10	7-8	10	3.5B
	12	5.5-6	10	5.0B
	14	3.5-4	10	5.0B
	16	2.2-2.4	10	5.0B
	18	1.3-1.6	10	5.0B
	20	1.2-1.5	10	5.0B
	25	0.7-1	10	5.0B
	30	0.3-0.6	10	5.0B
Aluminum Alloy (Nitrogen)	1	45-50	12	2.0S
	2	30-35	12	2.0S
	3	20-25	12	2.0S
	4	18-20	12	2.0S
	5	14-16	14	2.5S
	6	10-12	14	2.5S
	8	6-8	14	2.5S
	10	4-6	14	5.0B
	12	2-3	16	5.0B
	14	1.5-2.5	16	5.0B
	16	1.3-2	16	5.0B
	18	1-1.6	16	5.0B
	20	0.8-1.2	16	7.0B
	25	0.5-0.7	16	7.0B
	30	0.25-0.3	18	7.0B
	40	0.15-0.2	18	7.0B
Brass (Nitrogen)	1	45-50	10	2.5
	2	30-35	10	2.5
	3	19-20	10	3.5
	4	22-28	12	3.5

	5	20-25	12	3.5
	6	14-15	12	3.5
	8	9.5-11	12	3.5
	10	6-8.5	12	3.5
	12	1.8-2	14	5.0B
	14	1.2-1.4	16	5.0B
	16	0.8-1	16	5.0B
Copper (Oxygen)	1	30-32	7	2.5
	2	20-22	7	2.5
	3	13-15	7	3.5
	4	18-22	7	3.5
	5	10-11.5	7	3.5
	6	4-5	8	2.5S
	8	2-2.5	10	3.0S
	10	1-1.2	12	4.0S
Note: The above data are obtained through testing and are for reference only. Actual performance may vary based on material quality, environmental conditions, and specific application requirements.				