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single moduleMFSC-1000X-50umCut data：

1.1ChuangxinMFSC-1000X QBHOutput core50μmCut data (collimation100mm/focus125mm)

MFSC -1000X CW laser (50 μm)								
Material	thickness (mm)	speed (m/min)	power (W)	gas	air pressure (bar)	nozzle (mm)	focus position (mm)	cutting height (mm)
carbon steel	0.8	18-20	1000	N 2 / Air	11	2.0one	0	0.6
	1	10-15			11	2.0one	0	0.6
	2	4-5	1000	O 2	1.5	1.0pair	+3	0.6
	3	2.5-3.2			0.6	1.0pair	+4	0.6
	4	2.3-2.8			0.6	1.0pair	+4	0.6
	5	1.8-2.1			0.6	1.0pair	+5	0.6
	6	1.2-1.5			0.6	1.0pair	+6	0.6
	8	1-1.1			0.6	1.5pair	+5.5	1.5
	10	0.7-0.9			0.6	1.5pair	+5	1.5
Stainless steel	0.8	18-22	1000	N 2	10	2.0one	0	0.5
	1	13-18			12	2.0one	0	0.5
	2	4-6			12	2.0one	-1	0.5
	3	2.5-3			12	3.0one	-1.5	0.5
	4	1-1.5			14	3.0one	-2	0.5
	5	0.6-0.8			16	3.0one	-3	0.5
Aluminum alloy	0.8	18-20	1000	N 2	10	2.0one	0	0.8
	1	10-15			12	2.0one	0	0.5
	2	4-5			14	2.0one	-1	0.5
	3	1-1.5			16	2.0one	-1.5	0.5
brass	1	8.0-10	1000	N 2	10	2.0one	0	0.5
	2	2.0-2.5			14	2.0one	-1	0.5
	3	0.8-1.0			16	3.0one	-1.5	0.5

the data may change due to factors such as machine tools, systems, cutting heads, air pressure, materials, etc. The red marks in the table

The parameters are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production and processing.

Use higher power lasers.

1.2 single module MFSC -1000X core 50μm Piercing reference

Chuangxin MFSC -1000X 10mm Carbon steel oxygen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Squirt high mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	1000	45	100	15	1	-2	100	
Median	1000	45	100	12	0.6	-4	600	
low position	1000	40	100	8	0.6	-6	2500	

Chuangxin MFSC-1000X 5mm Stainless steel nitrogen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Squirt high mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	1000	55	1000	15	10	-2	100	
Median	1000	50	1000	12	10	-4	500	
low position	1000	45	1000	8	10	-6	1000	

thickness of Carbon steel /stainless steel that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range. Parameters such as duty cycle and frequency can be adjusted according to the actual effect to achieve the best effect; the perforation is sorted step by step in order. , the high position is the first level of perforation, and so on.

single moduleMFSC-1500X-50umCut data

2. Single moduleMFSC -1500XCut data

2.1Chuangxin single moduleMFSC-1500X Q BHOutput core50μmCut data (collimation100mm/focus 125mm)

MFSC -1500X CW laser (50 μm)								
material material	thickness mm	speed m/ min	power W	gas	air pressure Bar	nozzle mm	focus position mm	cutting height mm
carbon steel	1	22-25	1500	N 2 / Air	10	2.0one	0	0.6
	2	4-5	1500	O 2	1.5	1.0pair	+5	0.6
	3	3-4			0.6	1.0pair	+5	0.6
	4	2.3-2.8			0.6	1.0pair	+5	0.6
	5	1.8-2.3			0.6	1.0pair	+5	0.6
	6	1.6-2.0			0.6	1.0pair	+5	0.6

	8	1.2-1.5			0.8	4.0pair	+2	1.5
	10	0.9-1.2			0.8	4.0pair	+2	1.5
	12	0.8			0.8	4.0pair	+2	1.5
	14	0.65			0.8	4.0pair	+2.5	1.5
	16	0.5			0.8	4.0pair	+3	1.5
No rust steel	1	20-35	1500	N 2	10	2.0one	0	0.5
	2	8-10			10	2.0one	-1	0.5
	3	4.5-5.5			12	3.0one	-1.5	0.5
	5	1.5-2.0			15	3.0one	-5	0.5
	6	0.7-0.9			15	4.0one	-5	0.5
aluminum combine	1	15-18	1500	N 2	10	2.0one	0	0.5
	2	4.0-5.0			12	2.0one	-1	0.5
	3	1.5-2.5			14	2.5one	-1.5	0.5
	4	1.0-1.3			14	3.0one	-2.5	0.5
yellow copper	1	12-15	1500	N 2	10	3.0one	0	0.5
	2	4.0-5.0			10	3.0one	-1	0.5
	3	1.5-2.0			10	3.0one	-1	0.5

the data may change due to factors such as machine tools, systems, cutting heads, air pressure, materials, etc. The red-marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. Only Suitable for small batch production , not recommended for mass production and processing, it is recommended
Use higher power lasers.

2.2single moduleMFSC -1500X core 50μm Piercing reference

Chuangxin MFSC-1500X 16mmCarbon steel oxygen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	1000	55	100	15	1	-2	200	
Median	1000	45	100	12	0.6	-4	800	

low position	1000	40	100	8	0.6	-6	2000	

Chuangxin MFSC-1500X 6mm Stainless steel nitrogen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	1000	55	2500	15	10	-2	200	

Median	1000	50	2000	12	10	-4	600	
low position	1000	45	2000	8	10	-6	800	

thickness of Carbon steel /stainless steel that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range. Parameters such as duty cycle and frequency can be adjusted according to the actual effect to achieve the best effect; the perforation is performed step by step in order. In order, the high position is the first level of perforation, and so on.

single moduleMFSC-2000X-50um Cut data

3. Single moduleMFSC -2000XCut data

3.1Chuangxin single module MFSC-2000XQBOutput core50μmCut data (collimation100mm/focus 125mm)

MFSC-2000X CW laser (50 μm)								
Material	thickness mm	speed m/ min	power W	gas	air pressure bar	nozzle mm	focus position mm	Squirt highmm
carbon steel	1	25-30	2000	N 2 / Air	10	2.0one	0	0.6
	2	6-8			10	2.0one	-1	0.5
	2	5-6	2000	O 2	1.5	1.0pair	+3	0.6
	3	3-4			0.8	1.0pair	+4	0.6
	4	2.5-3.0			0.8	1.0pair	+4	0.6
	5	2.2-2.6			0.6	1.0pair	+5	0.6
	6	1.8-2.0			0.6	1.0pair	+6	0.8
	8	1.2-1.6			0.6	1.2pair	+5.5	0.8
	10	1.0-1.2			0.6	1.2pair	+5	0.8
	12	0.8-1.0			0.6	4.0pair	+4	1.0
	14	0.7-0.85			0.6	4.0pair	+4	1.0
	16	0.6-0.7			0.6	4.0pair	+4	1.0
	18	0.5-0.6			0.6	5.0pair	+4	1.0
	20	0.4-0.5			0.6	5.0pair	+4	1.0

Stainless steel	1	28-35	2000	N 2	10	2.0one	0	0.5
	2	9.0-15			10	2.0one	-1	0.5
	3	6.0-7.0			12	3.0one	-1.5	0.5
	4	2.8-3.5			14	3.0one	-2	0.5
	5	1.5-2.5			15	3.0one	-3	0.5

	6	1.0-1.5			16	3.5one	-4	0.5
	8	0.7-0.9			18	4.0one	-5	0.5
Aluminum alloy	1	22-35	2000	N 2	12	2.0one	0	0.5
	2	8.0-13			12	2.0one	-0.5	0.5
	3	4.0-4.5			14	3.0one	-1	0.5
	4	2.5-3.0			15	3.0one	-2	0.5
	5	1.5-2.0			16	3.0one	-3	0.5
	6	0.8-1.3			16	3.5one	-4	0.5
brass	1	15-18	2000	N 2	10	2.0one	0	0.8
	2	6.0-8.0			10	2.0one	-1	0.5
	3	2.5-3.0			12	3.0one	-1.5	0.5
	4	1.0-1.3			13	3.0one	-2	0.5
	5	0.7-0.8			14	3.5one	-2.5	0.5
Copper	1	20-22	2000	O2	12	3.0one	-1	0.5
	2	5.5-6.5			12	3.0one	-1	0.5
	3	2.0-3.0			14	3.0one	-2	0.5

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

3.2 single moduleMFSC -2000Xcore50μmPiercing Recommendations

3.2.1ChuangxinMFSC -2000X 20mmCarbon steel oxygen perforation parameters (for reference only)

stage	power W	Occupied Compare%	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stop light blowing gasms
high	2000	55	100	20	0.8	-2	200	

position								
Median	2000	45	100	15	0.7	-4	1000	
low position	2000	55	100	8	0.6	-6	2000	

3.2.2 ChuangxinMFSC -2000X 8mmStainless steel nitrogen perforation parameters (for reference only)

	power	Occupied	frequency	Nozzle height	air pressure	focus	Puncture time	stop light blowing

stage	W	Compare%	Hz	mm	bar	mm	ms	gasms
high position	2000	55	2500	16	10	-2	200	
Median	2000	50	2500	12	10	-4	1000	
low position	2000	40	2000	8	10	-6	500	

thickness of Carbon steel /stainless steel that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range. Parameters such as duty cycle and frequency can be adjusted according to the actual effect to achieve the best effect; the perforation is performed step by step in order. In order, the high position is the first level of perforation, and so on.

single moduleMFSC-3000X-50um Cut data

4. Single moduleMFSC-3000XCut data

4.1 ChuangxinMFSC - 3000X QBOutput core50μmCut data (collimation 100mm / focus 125mm) _

MFSC -3000X CW laser (50 μm)								
Material	thickness (mm)	speed (m/min)	power (W)	gas	air pressure (bar)	nozzle (mm)	focus Location (mm)	cutting high (mm)
carbon steel	1	35-40	3000	N 2 / Air	10	2.0one	0	0.6
	2	20-25			10	2.0one	-1	0.6
	2	5.0-6.0	3000	O 2	1.5	1.0pair	+3	0.6
	3	3.5-4.5	3000		0.8	1.0pair	+4	0.6
	4	3.2-4.0	3000		0.8	1.0pair	+5	0.6
	5	3.0-3.5	3000		0.8	1.0pair	+6	0.6
	6	2.5-3.0	3000		0.8	1.0pair	+7	0.6
	8	2.0-2.3	3000		0.8	1.2pair	+7	0.6
	10	1.4-1.8	3000		0.8	1.2pair	+5	0.6
	12	1.2-1.4	3000		0.8	4.0pair	+4	0.6
	14	0.8-0.9	2600		0.8	4.0pair	+4	1.0

	16	0.7-0.9	2600		0.6	4.0pair	+4	1.0
	18	0.65-0.75	2400		0.6	4.0pair	+4	1.0
	20	0.6-0.7	2400		0.6	5.0pair	+4.5	1.0
	twenty two	0.5-0.6	2400		0.6	5.0pair	+4.5	1.0
	1	45-55			10	2.0one	0	0.5

Stainless steel	2	24-28	3000	N 2	10	2.0one	-0.5	0.5
	3	8-13			12	3.0one	-1	0.5
	4	5-6			14	3.0one	-1.5	0.5
	5	3-4			15	3.0one	-3	0.5
	6	2.3-3.0			16	3.0one	-4	0.5
	8	1.0-1.5			16	4.0one	-5	0.5
	10	0.8-1.0			18	4.0one	-7	0.5
aluminumcombinegold	1	40-50	3000	N 2	10	2.0one	0	0.6
	2	15-20			10	2.0one	-0.5	0.5
	3	8-10			12	3.0one	-1	0.5
	4	4-5			14	3.0one	-2	0.5
	5	2.5-3.5			16	3.0one	-3	0.5
	6	2.0-2.3			16	3.0one	-4	0.5
	8	0.8-1.3			16	3.5one	-5	0.5
yellowcopper	1	25-28	3000	N 2	10	2.0one	0	0.5
	2	13-15			10	2.0one	-1	0.5
	3	5.0-6.0			12	3.0one	-1	0.5
	4	2.5-3.0			12	3.0one	-2	0.5
	5	1.8-2.3			13	3.5one	-2.5	0.5
	6	1.0-1.3			14	4.5one	-3	0.5
Copper	1	25-28	3000	O2	12	3.0one	-1	0.5
	2	8.0-10			12	3.0one	-1	0.5
	3	3.0-4.5			13	3.0one	-2	0.5
	4	2.0-2.5			14	3.5one	-4	0.5

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

4.2single moduleMFSC-3000XQBHOutput core50μmPiercing Recommendations

4.2.1ChuangxinMFSC -3000X 22mmCarbon steel oxygen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stop light blowing gasms
high position	3000	45	200	20	0.8	-4	200	
Median	3000	45	150	12	0.7	-6	3000	
low position	3000	55	150	8	0.6	-8	2000	

4.2.2ChuangxinMFSC -3000X 10mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stop Light blow air ms
high position	3000	55	2500	20	10	-4	150	
Median	3000	45	2500	12	10	-6	1000	
low position	3000	45	2000	8	10	-8	500	

thickness of Carbon steel /stainless steel that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range. Parameters such as duty cycle and frequency can be adjusted according to the actual effect to achieve the best effect; the perforation is performed step by step in order. In order, the high position is the first level of perforation, and so on.

single moduleMFSC-4000M-50um Cut data

5. Single moduleMFSC-4000MCut data

5.1MFSC - 4000M _ QBOutput core50μmCut data (collimation100mm / focus _150mm) _

MFSC-4000MCW laser (50 μm)									
material material	thickness (mm)	speed (m/min)	power (W)	gasbody	air pressure (bar)	nozzle (mm)	focus Location (mm)	cutting high (mm)	Remark
carbonsteel	1	40-50	4000	N 2 / Air	10	2.0one	0	0.6	
	2	15-20	4000		10	2.0one	-1	0.6	
	3	10-12	4000		10	2.0one	-1	0.6	
	3	4.0-4.5	2500	O 2	0.6	1.0pair	+4	0.6	
	4	3.5-4.0	3000		0.6	1.0pair	+5	0.6	
	5	3.0-3.5	3300		0.6	1.0pair	+5	0.6	
	6	2.6-3.2	3500		0.6	1.0pair	+6	0.6	
	8	2.0-2.3	4000		0.6	1.2pair	+6	0.8	
	10	1.8-2.5	4000		0.6	1.2pair	+6	0.8	
	12	1.5-1.7	2600		0.8	4.0pair	+5	1.0	
	14	1.2-1.4	2600		0.8	4.0pair	+5	1.0	
	16	1.0-1.2	2600		0.7	4.0pair	+5	1.0	
	18	0.7-0.8	2600		0.7	4.0pair	+5	1.5	
	20	0.6-0.7	2600		0.7	4.0pair	+5	1.5	
	twenty two	0.5-0.6	2600		0.6	5.0pair	+5	1.5	
	25	0.4-0.5	2600		0.6	5.0pair	+5	1.5	
	1	50-60			10	2.0one	0	0.5	
	2	20-25			10	2.0one	-1	0.5	
	3	10-13			12	3.0one	-1.5	0.5	
	4	8-10			13	3.0one	-2	0.5	
	5	4-5			14	3.0one	-2	0.5	

	6	3.5-4.0			15	3.0one	-2	0.5	
	8	1.5-2.0			16	4.0one	-3	0.5	
	10	1.2-1.5			18	4.0one	-4	0.5	
	12	0.7-1.0			18	5.0one	-5	0.5	
	14	0.6-0.8	4000	N 2	18	5.0one	-8	0.5	
	16	0.3-0.5			20	5.0one	-8	0.5	
Aluminum alloy	1	30-50			10	2.0one	0	0.6	
	2	20-24			12	2.0one	0	0.6	
	3	10-13			14	3.0one	-1	0.6	
	4	4-5			14	3.0 orders	-2	0.5	
	5	3-4	4000	N 2	15	3.0 orders	-3	0.5	
	6	2-3			15	3.0one	-3	0.5	
	8	1.4-1.8			16	4.0one	-3	0.5	
	10	0.8-1.1			16	4.0one	-5	0.5	
	12	0.6-0.8			18	5.0one	-5.5	0.5	

brass	1	30-35			10	2.0one	0	0.5	
	2	15-20			10	2.0one	-1	0.5	
	3	8-10			12	3.0one	-1	0.5	
	4	5.0-6.0	4000		13	3.0one	-2	0.5	
	5	2.0-3.0			13	3.5one	-2.5	0.5	
	6	2.0-2.5		N 2	14	3.5one	-3	0.5	
	8	1.0-1.2			14	4.5one	-3.5	0.5	
purplecopper	1	26-30			10	3.0one	-1	0.5	
	2	10-13			12	3.0one	-1	0.5	
	3	5.5-6.5	4000	O2	12	3.0one	-2	0.5	
	4	2.0-3.0			14	3.5one	-4	0.5	

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

5.2 single moduleMFSC - 4000M QBOutput core 50μm Piercing reference

5.2.1 ChuangxinMFSC -4000M 25 mmCarbon steel perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stop light blow air ms
high position	4000	45	200	20	0.6	-4	200	
Median	4000	45	200	12	0.6	-6	1500	
low position	4000	50	200	8	0.6	-10	1000	

5.2.2 ChuangxinMFSC -4000M 12 mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms

high position	4000	55	3000	20	10	-2	200	
Median	4000	50	2500	15	10	-4	1500	
low position	4000	45	1000	10	10	-8	500	

thickness of Carbon steel /stainless steel that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range. Parameters such as duty cycle and frequency can be adjusted according to the actual effect to achieve the best effect; the perforation is performed step by step in order. In order, the high position is the first level of perforation, and so on.

Multiple modulesMFMC-6000W-100um Cut data

6. Multi-module MFMC -6000W Cut data

6.1 Chuangxin MFMC -6000W Integration QB Output core 100μm Cut data (Collimation 100mm / focus 150mm) _

MFMC-6000W continuous laser (100 μm)									
material material	thickness (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus position (mm)	cutting height (mm)	Prepare Note
carbonsteel	1	50-55	6000	N2/ Air	10	2.0one	0	0.6	1
	2	25-31			12	2.0one	-0.5	0.5	
	3	15-20			14	3.0one	-1.5	0.5	
	4	8-10			14	3.0one	-3	0.5	
	5	6-7			16	3.5one	-3.5	0.5	
	6	4.5-5			18	3.5one	-4	0.5	
	3	3.6-4.2	3000	O 2	0.6	1.0pair	+6.5	0.6	2
	4	3.3-3.8	3000		0.6	1.0pair	+6.5	0.6	
	5	3-3.5	3500		0.6	1.0pair	+6	0.6	
	6	2.5-3.0	4000		0.6	1.0pair	+6	0.6	
	8	2.2-2.7	5000		0.6	1.2pair	+6	0.6	
	10	2.0-2.4	6000		0.6	1.2pair	+7	0.6	
	12	1.8-2.1	6000		0.6	1.2pair	+9	0.6	
	14	1.4-1.7	6000		0.5	1.4pair	+12	0.6	
	16	0.9-1.2	2200		0.5	5.0pair	+3.5	0.6	

18	0.7-1.0	2200	0.5	5.0pair	+3.5	1.5
20	0.6-0.8	2300	0.5	5.0pair	+3.5	1.5
twenty two	0.55-0. 65	2400	0.5	5.0pair	+3.5	1.5

	25	0.4-0.6	6000		0.85	1.6one	13	0.4	
Stainless steel	1	55-60	6000	N 2	10	2.0one	0	0.6	
	2	28-31			12	2.0one	0	0.5	
	3	18-21			12	3.0one	-0.5	0.5	
	4	12-14			12	3.0one	-1	0.5	
	5	7-9			14	3.0one	-1.5	0.5	
	6	4-5			14	4.0one	-2	0.5	
	8	3.0-3.8			16	4.0one	-4	0.5	
	10	2-2.2			16	4.5one	-7.5	0.5	
	12	1.2-1.5			18	4.5one	-8	0.5	
	14	1.0-1.2			16	4.5one	-10	0.5	
	16	0.8-0.9			18	4.5one	-11.5	0.5	
	18	0.7-0.8			18	5.0one	-12.5	0.5	
	20	0.6-0.7			18	5.0one	-13	0.5	
	twenty two	0.4-0.5			20	6.0one	-13	0.5	
	25	0.1-0.2			25	6.0one	5	0.5	
Aluminum alloy	1	55-60	6000	N 2	10	2.0one	0	0.6	
	2	25-28			10	2.0one	-0.5	0.5	
	3	14-16			14	3.0one	-1	0.5	
	4	10-12			14	3.0one	-1.5	0.5	
	5	6-8			15	3.0one	-2	0.5	
	6	3.5-4			16	4.0one	-2.5	0.5	
	8	2.5-3.0			16	4.0one	-2.5	0.5	
	10	2.0-2.5			18	4.0one	-3	0.5	

	12	1.0-1.5			18	4.0one	-4	0.5	
	14	0.9-1.1			20	5.0one	-5	0.5	
	16	0.8-0.9			20	5.0one	-7	0.5	
	18	0.7-0.8			25	5.0one	-9	0.5	
	20	0.5-0.7			25	5.0one	-10	0.5	
yellowcopper	1	40-50	6000	N 2	10	2.0one	0	0.6	
	2	20-25			12	2.0one	-0.5	0.5	
	3	8.0-10			12	3.0one	-1	0.5	
	4	6.0-7.0			14	3.0one	-1.5	0.5	
	5	5.5-6.5			14	4.0one	-2	0.5	
	6	3.0-4.0			16	4.0one	-2	0.5	
	8	2.5-3.0			16	4.0one	-3	0.5	
	10	2.0-2.2			16	4.0one	-3	0.5	
	12	1.0-1.3			18	5.0one	-7	0.5	
	16	0.8-1.0			18	5.0one	-8	0.5	
	20	0.1-0.2			20	5.0one	-10	0.5	
Copper	1	28-32	6000	O2	10	3.0one	-1	0.5	
	2	11-14			10	3.0one	-1	0.5	
	3	6.0-8.0			12	3.5one	-2	0.5	
	4	5.5-6.5			12	3.5one	-3	0.5	
	5	4.5-5.5			13	4.5one	-3	0.5	
	6	2.5-3.5			14	5.0one	-4	0.5	
	8	1.5-2.0			16	5.0one	-5	0.5	

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in

actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

6.2 Multiple modules MFMC-6000W core 100μm Piercing reference

6.2.1 Chuangxin MFMC-6000W 25mm Carbon steel perforation parameters (for reference only)

stage	Power W	occupy nul Compare %	frequency Hz	Nozzle height mm	air pressure bar	focus point mm	Puncture time ms	stop light blowing gasms
high position	6000	50	100	20	0.6	-4	200	
Median	6000	45	100	12	0.6	-6	1500	
low position	6000	45	300	8	0.7	-10	1000	

6.2.2 Chuangxin MFMC-6000W 20 mm Stainless steel nitrogen perforation parameters (for reference only)

stage	Power W	Occupied Compare %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	When piercing ms	stop light blowing gasms
high position	6000	55	3000	20	10	-8	200	
Median	6000	45	2500	12	10	-12	1500	
low position	6000	45	2000	8	10	-16	1000	

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range and can be adjusted according to the actual effect. Parameters such as duty cycle and frequency are used to achieve the best results; the perforations are sorted step by step in order, with the high bit being the first level perforation, and so on.

single module MFSC-6000W-100um Cut data

7. Single module MFSC-6000W Cut data

7.1 MFSC-6000W Integration QB Output core 100μm Cut data (collimation 100mm / focus 150mm) _

MFSC-6000W continuous laser (100 μm)

material material	thickness (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus Location (mm)	cutting height (mm)	Prepare Note
carbon steel	1	60-80	6000	N2/ Air	10	2.0one	0	0.6	
	2	40-45			12	2.0one	-0.5	0.5	

	3	23-28			14	3.0one	-1.5	0.5
	4	15-20			14	3.0one	-3	0.5
	5	10-13			16	3.5one	-3.5	0.5
	6	7-9			18	3.5one	-4	0.5
	3	3.6-4.5	3000		0.6	1.0pair	+6.5	0.6
	4	3.2-3.5	3000		0.6	1.0pair	+6.5	0.6
	5	2.6-3.2	3500		0.6	1.0pair	+6	0.6
	6	2.5-2.8	4000		0.6	1.0pair	+6	0.6
	8	2.2-2.5	5000		0.6	1.2pair	+6	0.6
	10	2.0-2.2	6000		0.6	1.2pair	+7	0.6
	12	1.8-2.0	6000	O 2	0.6	1.2pair	+9	0.6
	14	1.4-1.7	6000		0.5	1.4pair	+12	0.6
	16	0.9-1.2	2200		0.5	5.0pair	+3.5	0.6
	18	0.7-1.0	2200		0.5	5.0pair	+3.5	1.5
	20	0.6-0.8	2300		0.5	5.0pair	+3.5	1.5
	twenty two	0.55-0.65	2400		0.5	5.0pair	+3.5	1.5
	25	0.4-0.6	6000		0.85	1.6one	13	0.4
Stainless steel	1	60-80	6000	N 2	10	2.0one	0	0.6
	2	30-35			12	2.0one	0	0.5
	3	20-24			12	3.0one	-0.5	0.5
	4	13-16			12	3.0one	-1	0.5
	5	9-12			14	3.0one	-1.5	0.5
	6	6.0-8.5			14	4.0one	-2	0.5

	8	3.0-4.8			16	4.0one	-4	0.5
	10	1.8-2.5			16	4.5one	-7.5	0.5
	12	1.5-1.8			18	4.5one	-8	0.5
	14	0.8-1.2			16	4.5one	-10	0.5
	16	0.7-0.9 5			18	4.5one	-11.5	0.5
	18	0.6-0.7			18	5.0one	-12.5	0.5
	20	0.5-0.6			18	5.0one	-13	0.5
	twenty two	0.4-0.5			20	6.0one	-13	0.5
	25	0.1-0.2			25	6.0one	5	0.5
Aluminum alloy	1	60-80	6000	N 2	10	2.0one	0	0.6
	2	30-45			10	2.0one	-0.5	0.5
	3	20-28			14	3.0one	-1	0.5
	4	12-15			14	3.0one	-1.5	0.5
	5	6-8			15	3.0one	-2	0.5
	6	4-5			16	4.0one	-2.5	0.5
	8	3.0-3.5			16	4.0one	-2.5	0.5
	10	2.0-2.5			18	4.0one	-3	0.5
	12	1.0-1.3			18	4.0one	-4	0.5
	14	0.8-1.1			20	5.0one	-5	0.5
	16	0.5-0.8			20	5.0one	-7	0.5
	18	0.4-0.6			25	5.0one	-9	0.5
	20	0.4-0.5 5			25	5.0one	-10	0.5
yellow	1	40-50	6000	N 2	10	2.0one	0	0.6

copper	2	20-25			12	2.0one	-0.5	0.5
	3	8.0-10			12	3.0one	-1	0.5
	4	6.5-7.5			14	3.0one	-1.5	0.5
	5	5.5-6.5			14	4.0one	-2	0.5
	6	3.5-4.5			16	4.0one	-2	0.5
	8	1.5-1.8			16	4.0one	-3	0.5
	10	0.8-1			16	4.0one	-3	0.5
	12	0.6-0.7			18	5.0one	-7	0.5
	16	0.3-0.4			20	5.0one	-9	0.5
	20	0.1-0.2			20	5.0one	-10	0.5
purple copper	1	30-35	6000	O2	10	3.0one	-1	0.5
	2	12-15			10	3.0one	-1	0.5
	3	7.0-9.0			12	3.0one	-2	0.5
	4	6.0-7.0			12	3.5one	-3	0.5
	5	5.0-6.0			13	4.5one	-4	0.5
	6	2.5-3.5			14	5.0one	-5	0.5
	8	1.5-2.0			14	5.0one	-5	0.5

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

7.2 single module MFSC -6000W core 100μm Piercing reference

stage	Pow er W	occupy nul Compare %	freque ncy Hz	Nozzle height mm	air press ure bar	focus point mm	Puncture time ms	stop light blowin g gasms
high position	6000	50	100	20	0.6	-4	200	
Median	6000	45	100	12	0.6	-6	1500	
low positio n	6000	45	300	8	0.7	-10	1000	

7.2.2 ChuangxinMFSC -6000W 20 mmStainless steel nitrogen perforation parameters (for reference only)

stage	achieve ment Rate W	occupy nul Compare %	freque ncy Hz	Nozzle height mm	air press ure bar	focus mm	Puncture time ms	stop light blowin g gasms
high position	6000	55	3000	20	10	-8	200	
Median	6000	45	2500	12	10	-12	1500	
low position	6000	45	2000	8	10	-16	1000	

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range and can be adjusted according to the actual effect. Parameters such as duty cycle and frequency are used to achieve the best results; the perforations are sorted step by step in order, with the high bit being the first level perforation, and so on.

Multiple modulesMFMC-8000W-100um Cut data

8. Multi-module MFMC -8000W Cut data

8.1ChuangxinMFMC -8000W integratedQBcore 100μmCut data (collimation 100mm / focus 200mm) _

MFMC-8000W continuous laser (100 μ m)									
Material	thicknes s (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus position set (mm)	cutting height (mm)	Prepare Note
	1	55-60			10	2.0one	0	0.6	

	2	30-35	8000	N 2 / Air	12	2.0one	0	0.5	1
	3	20-25			13	3.0one	-1	0.5	
	4	15-20			15	3.0one	-1.5	0.5	

	5	10-14			15	3.5one	-2	0.5	
	6	7-9			16	4.0one	-3	0.5	
	8	4.5-6.5			16	4.5one	-4	0.5	
	8	2.3-2.5	4000		0.6	1.2pair	+6	0.6	
	10	2.0-2.3	5000		0.6	1.2pair	+7	0.6	
	12	1.8-2.1	6000		0.6	1.2pair	+8	0.6	
	14	1.7-1.9			0.6	1.4pair	+9	0.6	
	16	1.5-1.6		O 2	0.6	1.4pair	+10	0.6	2
	20	1.0-1.3			0.6	1.6pair	+12	0.6	
	twenty two	0.6-0.8	8000		0.7	1.6pair	+13	0.7	
	25	0.4-0.5			0.7	1.8pair	+14	0.7	
	30	0.2-0.3			1.3	1.8pair	+13	1	
Stainless steel	1	55-65			10	2.0one	0	0.6	
	2	35-40			12	2.0one	0	0.5	
	3	24-30			12	3.0one	0	0.5	
	4	15-20			13	3.0one	-1	0.5	
	5	12-16	8000	N 2	15	4.0one	-2	0.5	
	6	8-10			15	4.0one	-2.5	0.5	
	8	5-6			16	4.5one	-3.5	0.5	
	10	3.5-5			18	4.5one	-4.5	0.5	
	12	2-3			18	5.0one	-6	0.5	
	14	1.5-2.0			18	5.0one	-7	0.5	
	16	1-1.4			20	5.0one	-8	0.5	

	18	0.9-1.2			twenty two	5.0one	-9.5	0.5
	20	0.8-0.9			25	5.0one	-11	0.5
	25	0.3-0.5			25	5.0one	+8	0.5
Aluminum alloy	1	35-45	8000	N 2	10	2.0one	0	0.6
	2	25-30			12	2.0one	-1	0.5
	3	16-20			12	3.0one	-1	0.5
	4	10-13			13	3.0one	-3	0.5
	5	6-7.5			14	3.5one	-4	0.5
	6	5.0-6.5			14	3.5one	-4	0.5
	8	3-4			16	4.5one	-6	0.5
	10	2-3			16	4.5one	-7	0.5
	12	1.5-2.0			18	5.0one	-8	0.5
	14	1.2-1.5			18	5.0one	-9	0.5
	16	0.8-1.0			20	5.0one	-10	0.5
	18	0.6-0.8			25	5.0one	-11	0.5
	20	0.4-0.6			25	5.0one	-13	0.5
	25	0.3-0.4			25	5.0one	-16	0.5
yellowcopper	1	38-45	8000	N 2	10	2.0one	0	0.6
	2	25-28			12	2.0one	-1	0.5
	3	15-20			12	3.0one	-1	0.5
	4	10-12			12	3.0one	-2	0.5
	5	6-8			14	3.0one	-3	0.5
	6	5-6			16	3.5one	-4	0.5

	8	2.8-3.5			16	4.5one	-5	0.5	
	10	2.0-2.5			18	5.0one	-6	0.5	
	12	1.5-2.0			18	5.0one	-8	0.5	
	14	0.8-1.3			20	5.0one	-9	0.5	
	16	0.6-1.0			25	5.0one	-11	0.5	
purplecopper	1	30-35	8000	O2	10	3.0one	-1	0.5	3
	2	16-20			10	3.0one	-1	0.5	
	3	10-14			12	3.0one	-2	0.5	
	4	6.0-8.0			12	3.5one	-3	0.5	
	5	5.0-6.0			14	4.5one	-4	0.5	
	6	3.0-4.0			14	5.0one	-4	0.5	
	8	1.8-2.5			14	5.0one	-5	0.5	
	10	0.7-1.0			16	5.0one	-5	0.5	

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

8.2 Multiple modulesMFMC -8000W integratedQBcore 100μmPiercing reference

8.2.1ChuangxinMFMC -8000W 20 mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure	focus mm	Puncture time ms	Stop light and blow air ms

					bar			
high position	8000	45	100	20	0.6	-2	200	
Median	8000	45	100	12	0.6	-4	1500	
low positio n	8000	55	100	8	0.6	-6	500	

8.2.2 ChuangxinMFMC -8000W 30 mmCarbon steel perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	8000	45	100	20	0.6	-4	200	
Median	8000	45	100	12	0.7	-6	2500	
low position	8000	55	120	8	0.6	-10	1500	

8.2.3 Chuangxin MFMC -8000W 20 mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	8000	55	2500	20	8	-6	200	
Median	8000	45	2500	15	8	-8	2000	
low position	8000	40	2000	10	8	-12	500	

8.2.4Chuangxin MFMC -8000W 30 mmStainless steel oxygen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	8000	45	150	20	0.6	-6	500	
Median	8000	45	150	12	0.6	-8	2500	
low	8000	55	200	8	0.6	-12	1000	

position								

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range and can be adjusted according to the actual effect. Parameters such as duty cycle and frequency are used to achieve the best results; the perforations are sorted step by step in order, with the high bit being the first level perforation, and so on.

Multiple modulesMFMC-12000W-100um Cut data

9. Multi-moduleMFMC-12000WIntegrationLOEOutput cutting data

9.1ChuangxinMFMC -12000Wcore 100μmCut data (collimation 100mm / focus200mm) _ _

MFMC -12000W CW laser (100 μm)

Material	thick Spend (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus point Location (mm)	cutting height (mm)	Prepare Note
carbonsteel	1	50-60	12000	N 2 / Air	10	2.0one	0	1	1
	2	33-43			12	2.0one	0	0.5	
	3	28-36			13	3.0one	0	0.5	
	4	18-24			13	3.5one	0	0.5	
	5	14-18			13	4.0one	0	0.5	
	6	10-14			13	4.5one	0	0.5	
	8	8-10			13	4.5one	-1.5	0.5	
	10	5-6.5			13	4.5one	-3	0.5	
	10	2.2-2.4	6000	O 2	0.6	1.2pair	+8	0.6	2
	12	1.8-2.1	7500		0.6	1.2pair	+9	0.6	
	14	1.7-1.9	8500		0.6	1.4pair	+9	0.6	
	16	1.6-1.8	9500		0.6	1.4pair	+11	0.6	
	20	1.4-1.6	12000		0.6	1.6pair	+12	0.6	
	twenty two	1.2-1.3			0.7	1.6pair	+12	0.6	
	25	0.8-1.0			0.7	1.4one	+13	0.6	
	30	0.5-0.8			1	one1.7	+13	0.5	
	40	0.2-0.3			1.3	one1.7	+13	0.5	
Stainless steel	1	60-70	12000	N 2	10	2.0one	0	1	
	2	35-45			12	2.0one	0	0.5	
	3	30-35			13	3.0one	-0.5	0.5	
	4	20-26			12	3.0one	-1	0.5	

	5	15-20			12	3.5one	-1	0.5	
	6	12-15			12	4.0one	-1.5	0.5	
	8	9-11			13	5.0one	-3	0.5	
	10	6-7			14	5.0one	-3	0.5	
	12	4-4.5			14	5.0one	-3.5	0.5	
	14	3-3.5			15	5.0one	-6	0.3	
	16	2.3-2.6			15	5.0one	-8	0.3	
	18	1.6-1.8			16	5.0one	-9	0.5	
	20	1.3-1.5			18	5.0one	-10	0.5	
	25	0.8-1			25	5.0one	-13	0.5	
	30	0.25-0.35			25	5.0one	+7	0.5	
	40	0.1-0.2			25	5.0one	+8	0.5	
stainless steel air	1	60-70	12000	Air	10	2.0one	0	1	
	2	35-45			12	2.0one	0	0.5	
	3	30-35			13	3.0one	-0.5	0.5	
	4	20-26			12	3.0one	-1	0.5	
	5	15-20			12	3.5one	-1	0.5	
	6	12-15			12	4.0one	-1.5	0.5	
	8	9-11			13	5.0one	-3	0.5	
	10	7-8			14	5.0one	-3	0.5	
	12	4-4.5			14	5.0one	-3.5	0.5	
	14	3-3.5			15	5.0one	-6	0.3	
	16	2.3-2.6			15	5.0one	-8	0.3	

	18	1.6-1.8			16	5.0one	-9	0.5	
	20	1.3-1.5			18	5.0one	-10	0.5	
	25	0.8-1			25	5.0one	-13	0.5	
	30	0.25-0.35			25	5.0one	+7	0.5	
Aluminum alloy	1	50-60			12	2.0one	0	0.6	
	2	35-40			12	2.0one	-1	0.5	
	3	25-30			12	2.0one	-1	0.5	
	4	18-23			12	2.0one	-2	0.5	
	5	14-17			14	2.5one	-3	0.5	
	6	10-12			14	2.5one	-4	0.5	
	8	7-8			14	2.5one	-6	0.5	
	10	5-6			14	5.0one	-7	0.5	
	12	2.6-3.5	12000	N 2	16	5.0one	-7	0.5	
	14	1.7-2.5			16	5.0one	-8	0.5	
	16	1.6-2.0			16	5.0one	-9	0.5	
	18	1.2-1.5			16	5.0one	-10	0.5	
	20	1-1.3			16	5.0one	-12	0.3	
	25	0.6-0.8			25	5.0one	-13	0.5	
	30	0.3-0.4			25	5.0one	+7	0.5	
	40	0.2-0.3			25	5.0one	+8	0.5	
brass	1	40-50			10	2.0one	0	0.6	
	2	30-35	12000	N 2	12	2.0one	-1	0.5	
	3	22-25			12	3.0one	-1	0.5	

	4	17-20			12	3.0one	-2	0.5	
	5	14-16			14	3.5one	-3	0.5	
	6	9-11			14	4.0one	-3	0.5	
	8	7-8			14	4.5one	-4	0.5	
	10	4.5-5.5			14	4.5one	-5	0.5	
	12	2.4-3.0			14	4.5one	-5	0.5	
	14	1.4-2.0			16	5.0one	-8	0.5	
	16	0.8-1.0			16	5.0one	-11	0.5	
purplecopper oxygengas	1	30-35	12000	O 2	10	2.0one	-0.5	0.6	3
	2	20-25			12	2.0one	-1	0.5	
	3	16-20			13	3.0one	-2	0.5	
	4	10-13			13	3.5one	-3	0.5	
	5	7-10			13	4.0one	-4.5	0.5	
	6	4.5-5.5			14	4.5one	-5	0.5	
	8	2.5-3.0			16	4.5one	-6	0.5	
	10	1.0-1.5			18	4.5one	-8	0.5	

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

9.2 Multiple modules MFMC-12000W core 100μm Piercing reference

9.2.1 Chuangxin MFMC -12000W 20 mm Carbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stop light blowing gas ms
high position	12000	45	100	20	0.6	-4	200	

Median	12000	45	100	12	0.6	-6	1000	
low position	5000	55	100	8	0.6	-10	300	

9.2.2 ChuangxinMFMC-12000W 30 mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	12000	45	100	20	0.6	-4	200	
Median	12000	45	100	12	0.6	-8	2500	
low position	12000	45	150	8	0.7	-12	500	

9.2.3 ChuangxinMFMC-12000W 20 mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	dutycycde %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stopLight blowair ms
high position	12000	35	2500	20	8	-2	150	
Median	12000	45	2500	12	8	-4	1000	
low position	12000	45	1000	8	8	-6	500	

9.2.4 ChuangxinMFMC-12000W 30mmStainless steel oxygen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	stop Just blow ms
high position	1200	45	100	20	0.8	-6	500	
Median	12000	45	150	12	0.8	-8	2500	
low position	12000	45	150	10	0.8	-12	500	

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range and can be adjusted according to the actual effect. Parameters such as duty cycle and frequency are used to achieve the best results; the perforations are sorted step by step in order, with the high bit being the first level perforation, and so on.

Multiple modulesMFMC-15000W-100um Cut data

10. Multi-module MFMC-15000W integrationLOEOutput cutting data

10.1ChuangxinMFMC -15000Wcore 100μmCut data (collimation 100mm / focus200mm) _

ChuangxinMFMC -15000 CW Laser (100 μm)									
Material	thickness (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus Location (mm)	cutting high (mm)	Prepare Note
carbonsteel	1	60-80	15000	N 2 / Air	10	2.0one	0	1	1
	2	50-60			10	2.0one	0	0.5	
	3	30-33			12	3.0one	0	0.5	
	4	23-26			12	3.0one	0	0.5	
	5	20-22			12	3.5one	0	0.5	
	6	17-19			12	3.5one	0	0.5	
	8	11-12			12	4.0one	-1	0.5	
	10	7-8			13	4.0one	-1	0.5	
	12	5-6			13	4.5one	-2	0.5	
	14	4.0-4.5			15	4.5one	-6	0.5	
	16	3-3.5			16	5.0one	-8	0.5	
	10	2.0-2.3	6000		0.6	1.2pair	+8	0.5	
	12	1.8-2.1	7500		0.6	1.2pair	+8	0.5	

	14	1.7-1.8	8500	O 2	0.6	1.4pair	+9	0.5	2
	16	1.6-1.7	9500		0.6	1.4pair	+10	0.5	

	20	1.4-1.6	15000		0.6	1.6pair	+12	0.5
	twenty two	1.2-1.4			0.7	1.6pair	+12	0.5
	25	1.0-1.2			0.7	1.4 one	+13	0.3
	30	0.4-1			0.9	1.6 one	+12	0.3
	40	0.2-0.3			1.3	1.8 one	+13	0.3
	50	0.1-0.2			1.5	1.8 one	+13	0.3
Stainless steel	1	60-80	15000	N 2	10	2.0one	0	1
	2	40-50			12	2.0one	0	0.5
	3	34-38			13	3.5one	0	0.5
	4	23-30			12	3.5one	-1	0.5
	5	18-23			13	4.0one	-1	0.5
	6	16-19			13	4.5one	-2	0.5
	8	10-12			13	5.0one	-3	0.5
	10	8-10			14	5.0one	-4	0.5
	12	6-7			15	5.0one	-5	0.5
	14	3.5-4.5			15	5.0one	-7	0.5
	16	2.5-3.5			16	5.0one	-8	0.5
	18	1.8-2.3			18	5.0one	-9	0.5
	20	1.5-2.0			20	5.0one	-11	0.5
	25	0.9-1.2			25	5.0one	-13	0.5
	30	0.3-0.4			25	5.0one	-16	0.5
	40	0.15-0.2			25	5.0one	+8	0.5
	50	0.1-0.15			25	5.0one	+9	0.5
	1	60-80			10	3.0one	-1	1

stainless steel air	2	40-60	15000	Air	12	3.0one	-1	0.5	
	3	30-35			13	3.5one	-1	0.5	
	4	25-28			14	3.5one	-2	0.5	
	5	22-25			16	4.0one	-4	0.5	
	6	18-20			16	4.5one	-4	0.5	
	8	10-12			16	4.5one	-4	0.5	
	10	8-9			16	4.5one	-5	0.5	
	12	6-7			18	4.5one	-6	0.5	
	14	4-4.2			18	5.0one	-8	0.5	
	16	2.5-3			20	5.0one	-10	0.5	
	18	2-2.3			20	5.0one	-10	0.5	
	20	1.8-2			25	5.0one	-15	0.5	
	25	1.2-1.4			25	6.0one	-19	0.5	
	30	0.8-1			25	6.0one	-twenty one	0.5	
	35	0.4-0.6			25	6.0one	-twenty four	0.5	
Aluminum alloy	1	60-70	15000	N 2	10	3.0one	0	0.6	
	2	40-50			12	3.0one	-1	0.5	
	3	34-40			14	3.0one	-1	0.5	
	4	21-26			14	3.5one	-2	0.5	
	5	16-20			14	3.5one	-3	0.5	
	6	13-15			14	4.0one	-4	0.5	
	8	9-11			16	4.0one	-6	0.5	
	10	6-8			16	4.5one	-7	0.5	

12	2.5-4

16	4.5one	-9	0.5

	14	2-3			16	5.0one	-9	0.5	
	16	1.5-2			18	5.0one	-10	0.5	
	18	1.3-1.8			18	5.0one	-11	0.5	
	20	0.8-1.3			20	5.0one	-13	0.3	
	25	0.5-0.7			25	5.0one	-14	0.5	
	30	0.4-0.5			25	5.0one	-17	0.5	
	40	0.2-0.3			25	5.0one	+8	0.5	
	50	0.1-0.2			25	5.0one	+9	0.5	
brass	1	50-60	15000	N 2	12	2.0one	0	1	
	2	38-42			12	2.0one	-1	0.5	
	3	25-30			12	3.0one	-1	0.5	
	4	20-24			12	3.5one	-2	0.5	
	5	18-21			14	3.5one	-3	0.5	
	6	9-11			14	4.0one	-3	0.5	
	8	7-9			14	4.0one	-4	0.5	
	10	5-6			14	4.5one	-5	0.5	
	12	3-3.5			14	4.5one	-5	0.5	
	14	2.5-3.0			16	4.5one	-8	0.5	
	16	1.3-1.5			18	5.0one	-11	0.5	
	18	1.0-1.2			18	5.0one	-11	0.5	
	20	0.6-0.8			18	5.0one	-12	0.3	
purple copper	1	38-42	15000	O 2	10	2.0one	-0.5	0.6	3
	2	28-32			10	2.0one	-1	0.5	
	3	20-24			10	3.0one	-2	0.5	

oxygen	4	14-16		12	3.5one	-3	0.5
	5	8-10		12	3.5one	-4.5	0.5
	6	6-7		13	4.0one	-5	0.5
	8	2.5-3.5		13	4.0one	-6	0.5
	10	1.5-2.0		14	4.0one	-8	0.5

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

10.2Multiple modulesMFMC-15000Wcore100μmPiercing reference

10.2.1ChuangxinMFMC -15000W 20 mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	12000	45	100	20	0.6	-2	200	
Median	15000	45	100	12	0.6	-4	800	
low position	8000	35	150	8	0.6	-6	200	

10.2.2ChuangxinMFMC -15000W 30 mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure	focus mm	Puncture time ms	Stop light and blow air ms

					bar			
high position	12000	45	100	20	0.6	-4	200	
Median	15000	45	100	12	0.6	-8	2000	
low position	15000	55	120	8	0.7	-10	1000	

10.2.3 ChuangxinMFMC -15000W 20 mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	15000	45	80	20	6	-2	150	
Median	15000	35	100	15	8	-4	1000	
low position	15000	45	80	10	8	-6	500	

10.2.4 Chuangxin MFMC -15000W 30 mm Stainless steel oxygen perforation parameters (for reference only)

stage	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	10000	55	2500	20	6	-10	500	
Median	15000	45	2500	14	8	-16	2500	
low position	12000	55	2000	10	8	-20	500	

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range and can be adjusted according to the actual effect. Parameters such as duty cycle and frequency are used to achieve the best results; the perforations are sorted step by step in order, with the high position being the first level perforation, and so on.

Multiple modules MFMC-20000W-150um Cut data

11. Multiple modules MFMC-20000W Cut data

11.1 Chuangxin MFMC -20000W integrated LOE core 150μm Cut data (collimation 100mm / focus 200mm) _

MFMC -20000W CW laser (150 μm)

Material	thickness (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus point Location (mm)	cutting height (mm)	Prepare Note
carbon steel	1	60-80	20000	N 2 / Air	10	3.5one	0	0.5	1
	2	40-50			10	3.5one	0	0.5	
	3	35-45			10	3.5one	0	0.5	

4	28-35			10	3.5one	-0.5	0.5	
5	23-30			10	3.5one	-0.5	0.5	
6	18-23			12	3.5one	-0.5	0.5	
8	13-16			13	4.5one	-1	0.5	
10	10-13			13	4.5one	-1.5	0.5	
12	7-8			14	4.5one	-2	0.5	
14	5.5-6.5			16	4.5one	-3	0.5	
16	4.0-4.5			25	5.0one	-4	0.5	
18	3.2-3.5			25	5.0one	-6	0.5	
20	2.6-3.0			25	6.0one	-10	0.5	
10	2.2-2.5	6000		0.6	1.2pair	+8	0.6	
12	1.9-2.1	6500		0.6	1.2pair	+9	0.6	
14	1.8-1.9	8000		0.6	1.4pair	+10	0.6	
16	1.6-1.8	8500		0.6	1.4pair	+11	0.6	
18	1.5-1.7	12000		0.6	1.6pair	+12	0.6	
20	1.4-1.6	12000		0.6	1.6pair	+12	0.6	
twenty two	1.3-1.5		O 2	0.7	1.6pair	+12	0.6	2
25	1.2-1.4			1.0	1.4one	+12	0.3	
30	1.1-1.3			1.2	1.6one	+13.5	0.3	
35	1.0-1.2	20000		0.8	1.6one	+14	0.3	
40	0.6-0.8			1.0	1.6one	+14	0.3	
50	0.3-0.5			1.3	1.8one	+14	1.5	
60	0.1-0.2			1.6	1.8one	+14	1.5	

	70	0.1-0.2			1.6	1.8one	+14	1.5
	80	0.1-0.2			1.6	1.8one	+14	1.5
Noruststeel	1	60-80	20000	N 2	10	3.0one	0	1
	2	45-55			10	3.0one	0	0.5
	3	35-40			10	3.0one	0	0.5
	4	30-35			12	3.5one	0	0.5
	5	23-28			12	3.5one	0	0.5
	6	18-22			13	4.5one	-1	0.5
	8	14-16			13	4.5one	-3	0.5
	10	11-13			14	4.5one	-3	0.3
	12	8-10			14	4.5one	-4	0.5
	14	5.5-6.5			14	4.5one	-6	0.5
	16	4.5-5.5			16	5.0one	-8	0.5
	18	3.5-4.5			18	5.0one	-8	0.5
	20	2.8-3.3			20	5.0one	-9	0.5
	25	1.7-2.0			25	6.0one	-13	0.5
	30	1.0-1.3			25	6.0one	-15	0.5
	35	0.5-0.8			25	7.0one	-17	0.5
	40	0.3-0.5			25	5.0one	+8	0.3
	50	0.1-0.2			25	5.0one	+9	0.3
	60	0.1-0.2			25	6.0one	+9	0.3
	70	0.1-0.15			25	8.0one	+9	0.3
	80	0.1-0.15			25	8.0one	+9	0.3
	90	0.05-0.1			25	8.0one	+9	0.3

	100	0.05-0.1			25	8.0one	+9	0.3	
Noruststeel	1	60-80	20000	Air	8	2.0one	0	1	
	2	50-60			8	2.0one	0	0.5	
	3	40-45			10	3.0one	-1	0.5	
	4	35-39			10	3.0one	-1	0.5	
	5	25-30			11	3.5one	-1	0.5	
	6	22-26			11	3.5one	-2	0.5	
	8	15-18			12	4.0one	-2	0.5	
	10	12-14			13	4.0one	-3	0.3	
	12	10-11			13	4.5one	-3.5	0.3	
	14	6.5-7.5			14	4.5one	-3.5	0.3	
	16	5.0-5.8			16	4.5one	-7	0.3	
	18	3.8-4.5			20	4.5one	-9	0.3	
	20	3.0-3.5			20	5.0one	-10	0.3	
	25	1.5-2.0			25	5.0one	-13	0.3	
	30	1.0-1.3			25	5.0one	-15	0.3	
	40	0.5-0.6			25	6.0one	-17	0.3	
	50	0.1-0.2			25	6.0one	+9	0.3	
	60	0.1-0.2			25	8.0one	+9	0.3	
	70	0.1-0.15			35	8.0one	+9	0.3	
Aluminum alloy	1	60-80	20000	N 2	8	3.0one	0	0.5	
	2	50-60			8	3.0one	0	0.5	
	3	35-45			8	3.0one	-1	0.5	
	4	30-40			8	3.0one	-1	0.5	

	5	20-25			10	4.5one	-2	0.5
	6	15-22			10	4.5one	-2	0.5
	8	14-20			10	5.0one	-3	0.5
	10	8.0-10			10	5.0one	-3	0.5
	12	7.0-8.0			10	5.0one	-4	0.5
	14	4.0-6.0			12	5.0one	-5	0.5
	16	3.0-4.5			14	5.0one	-6	0.5
	18	2.3-3.0			14	5.0one	-6	0.5
	20	2.0-2.3			16	5.0one	-7	0.5
	25	1.0-1.5			18	6.0one	-8	0.5
	30	0.6-0.8			20	6.0one	-8	0.5
	40	0.3-0.6			25	6.0one	8	0.5
	50	0.3-0.4			28	6.0one	8	0.5
	60	0.2-0.3			28	6.0one	8	0.5
brass	1	50-60	20000	N 2	10	3.0one	0	0.5
	2	35-45			10	3.5one	0	0.5
	3	28-35			10	3.5one	0	0.5
	4	23-28			10	3.5one	-1	0.5
	5	15-20			12	4.5one	-1	0.5
	6	12-15			12	4.5one	-1.5	0.5
	8	8.0-10			12	5.0one	-2	0.5
	10	5.0-7.0			13	5.0one	-3	0.5
	12	3.5-5.5			14	5.0one	-3	0.5

	14	3.0-4.5			14	5.0one	-4	0.5	
	16	2.0-3.0			14	5.0one	-5	0.5	
	18	1.0-1.5			16	5.0one	-6	0.5	
	20	0.7-0.9			18	6.0one	-6.5	0.5	
Copper	1	30-40	20000	O 2	8	3.0one	0	0.5	3
	2	22-30			8	3.0one	0	0.5	
	3	20-25			8	3.5one	0	0.5	
	4	15-18			10	3.5one	-1	0.5	
	5	12-14			10	5.0one	-1	0.5	
	6	7.0-9.0			10	5.0one	-2	0.5	
	8	4.5-5.5			10	5.0one	-3	0.5	
	10	3.0-3.5			12	5.0one	-4	0.5	
	12	2.0-2.5			14	5.0one	-5	0.5	

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

11.2Multiple modulesMFMC-20000Wcore150μmPiercing reference

11.2.1 ChuangxinMFMC -20000W 30mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressur	focus mm	Puncture time ms	Stop light and blow air ms

					e bar			
high position	15000	45	150	20	0.6	-4	200	
Median	15000	45	100	12	0.6	-6	1000	
low position	20000	55	100	8	0.6	-8	200	

11.2.2 ChuangxinMFMC-20000W 40 mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	45	100	20	0.6	-6	200	
Median	20000	45	150	12	0.7	-8	2500	
low position	15000	50	150	8	0.7	-12	500	

11.2.3ChuangxinMFMC-20000W30mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	55	2500	20	6	-8	200	
Median	20000	45	2500	15	8	-12	1500	
low position	20000	45	80	10	8	-16	500	

11.2.4 ChuangxinMFMC-20000W 3 0mmStainless steel oxygen perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	45	100	20	0.6	-6	200	
Median	20000	45	100	12	0.8	-8	2000	
low position	12000	55	100	10	0.8	-12	500	

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range, depending on the actual effect. Parameters such as duty cycle and frequency can be adjusted to achieve the best effect; the perforations are sorted step by step in order, with the high position being the first level perforation, and so on.

Multiple modulesMFMC-20000W-100um Cut data

12. Multiple modulesMFMC-20000WCut data

12.1ChuangxinMFMC -20000W integratedLOEcore 100μmCut data (collimation 100mm / focus 200mm) _

MFMC -20000W CW laser (100 μm)

Material	thickness (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus point Location (mm)	cutting height (mm)	Prepare Note
carbon steel	1	60-80	20000	N2 / Air	10	3.0one	0	0.5	1
	2	40-50			10	3.0one	0	0.5	
	3	35-45			10	3.0one	0	0.5	
	4	30-35			12	3.5one	0	0.5	
	5	25-30			10	3.5one	0	0.5	
	6	20-25			12	3.5one	-0.5	0.5	
	8	14-18			13	4.5one	-1	0.5	
	10	10-13			13	4.5one	-1.5	0.5	
	12	7-8			14	4.5one	-2	0.5	
	14	5.5-6.5			16	4.5one	-3	0.5	
	16	4.0-4.5			25	5.0one	-4	0.5	
	18	3.2-3.5			25	5.0one	-6	0.5	
	20	2.7-3.0			25	6.0one	-10	0.5	
	10	2.2-2.5	6000	O2	0.6	1.2pair	+8	0.6	2
	12	1.9-2.1	6500		0.6	1.2pair	+9	0.6	
	14	1.8-1.9	8000		0.6	1.4pair	+10	0.6	
	16	1.6-1.8	8500		0.6	1.4pair	+11	0.6	
	18	1.5-1.7	12000		0.6	1.6pair	+12	0.6	
	20	1.4-1.6	12000		0.6	1.6pair	+12	0.6	
	twenty two	1.3-1.5	12000		0.7	1.6pair	+12	0.6	

25	1.2-1.4	15000		1.0	1.4one	+12	0.3	

	30	1.1-1.3	18000		1.2	1.6one	+13.5	0.3
	35	1.0-1.2	20000		0.8	1.6one	+14	0.3
	40	0.6-0.8			1.0	1.6one	+14	0.3
	50	0.3-0.5			1.3	1.8one	+14	1.5
	60	0.2-0.25			1.6	1.8one	+14	1.5
	70	0.1-0.2			1.6	1.8one	+14	1.5
	80	0.1-0.15			1.6	1.8one	+14	1.5
Norust steel	1	60-80	20000	N 2	10	3.0one	0	0.5
	2	40-45			10	3.0one	0	0.5
	3	35-40			10	3.0one	0	0.5
	4	30-33			12	3.5one	0	0.5
	5	23-25			12	3.5one	0	0.5
	6	20-22			13	4.5one	-1	0.5
	8	15-18			13	4.5one	-3	0.5
	10	11-13			14	4.5one	-3	0.3
	12	8-10			14	4.5one	-4	0.5
	14	5.5-6.5			14	4.5one	-6	0.5
	16	4.5-5.5			16	5.0one	-8	0.5
	18	3.5-4.5			18	5.0one	-8	0.5
	20	3.0-4.0			20	5.0one	-9	0.5
	25	1.9-2.4			25	6.0one	-13	0.5
	30	0.8-1.2			25	6.0one	-15	0.5
	35	0.5-0.8			25	7.0one	-17	0.5

	40	0.3-0.5			25	5.0one	+8	0.3
	50	0.2-0.3			25	5.0one	+9	0.3
	60	0.15-0.2			25	6.0one	+9	0.3
	70	0.1-0.15			25	8.0one	+9	0.3
	80	0.08-0.1			25	8.0one	+9	0.3
	90	0.05-0.07			25	8.0one	+9	0.3
	100	0.04-0.06			25	8.0one	+9	0.3
Noruststeel	1	60-80	20000	Air	8	2.0one	0	0.5
	2	50-60			8	2.0one	0	0.5
	3	40-45			10	3.0one	-1	0.5
	4	35-39			10	3.0one	-1	0.5
	5	25-30			11	3.5one	-1	0.5
	6	22-26			11	3.5one	-2	0.5
	8	15-18			12	4.0one	-2	0.5
	10	12-14			13	4.0one	-3	0.3
	12	10-11			13	4.5one	-3.5	0.3
	14	6.5-7.5			14	4.5one	-3.5	0.3
	16	5.0-5.8			16	4.5one	-7	0.3
	18	3.8-4.5			20	4.5one	-9	0.3
	20	3.0-3.5			20	5.0one	-10	0.3
	25	1.5-2.0			25	5.0one	-13	0.3
	30	1.0-1.3			35	5.0one	-15	0.3
	40	0.5-0.6			25	6.0one	-17	0.3
	50	0.2-0.3			25	6.0one	+9	0.3

	60	0.1-0.2			25	8.0one	+9	0.3
	70	0.1-0.15			35	8.0one	+9	0.3
aluminumcombinegold	1	60-80	20000	N 2	8	3.0one	0	0.5
	2	45-55			8	3.0one	0	0.5
	3	38-45			8	3.0one	-1	0.5
	4	30-40			8	3.0one	-1	0.5
	5	23-28			10	3.5one	-2	0.5
	6	16-20			10	4.5one	-2	0.5
	8	10-12			10	5.0one	-3	0.5
	10	9-10			10	5.0one	-3	0.5
	12	5-6			10	5.0one	-4	0.5
	14	4-5			12	5.0one	-5	0.5
	16	3-4			14	5.0one	-6	0.5
	18	2.3-2.8			14	5.0one	-6	0.5
	20	2.0-2.3			16	5.0one	-7	0.5
	25	1.0-1.5			18	6.0one	-8	0.5
	30	0.6-0.8			20	6.0one	-8	0.5
	40	0.4-0.5			25	6.0one	8	0.5
	50	0.3-0.4			28	6.0one	8	0.5
	60	0.2-0.3			28	6.0one	8	0.5
brass	1	50-60	20000	N 2	10	3.0one	0	0.5
	2	35-45			10	3.5one	0	0.5
	3	28-32			10	3.5one	0	0.5

	4	20-25			10	3.5one	-1	0.5	
	5	18-21			12	4.5one	-1	0.5	
	6	13-17			12	4.5one	-1.5	0.5	
	8	9.0-12			12	5.0one	-2	0.5	
	10	6.0-8.0			13	5.0one	-3	0.5	
	12	4.0-6.0			14	5.0one	-3	0.5	
	14	3.5-4.5			14	5.0one	-4	0.5	
	16	2.0-3.0			14	5.0one	-5	0.5	
	18	1.0-1.5			16	5.0one	-6	0.5	
	20	0.7-0.9			18	6.0one	-6.5	0.5	
purplecopper	1	35-40	20000	O2	8	3.0one	0	0.5	3
	2	26-30			8	3.0one	0	0.5	
	3	24-28			8	3.5one	0	0.5	
	4	16-20			10	3.5one	-1	0.5	
	5	12-15			10	5.0one	-1	0.5	
	6	8.0-10			10	5.0one	-2	0.5	
	8	5.0-6.0			10	5.0one	-3	0.5	
	10	3.0-3.5			12	5.0one	-4	0.5	
	12	2.0-2.5			14	5.0one	-5	0.5	

Note: When cutting carbon steel and stainless steel with air or nitrogen, the efficiency and stability will be improved, and the thickness of the bearing will increase, and slagging is also prone to occur. During actual batch cutting, the above data parameters may be affected by factors such as machine tools, systems, cutting heads, air pressure, materials, etc., and the data may change. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. They are only suitable for small batch production and are not recommended for mass production processing.

For work, it is recommended to use a higher power laser. Copper needs to be cut with high-pressure oxygen, and air or nitrogen can easily cause damage to the laser.

12.2Multiple modulesMFMC-20000Wcore100μmPiercing reference

12.2.1 ChuangxinMFMC -20000W 30mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	15000	45	150	20	0.6	-4	200	
Median	15000	45	100	12	0.6	-6	1000	
low position	20000	55	100	8	0.6	-8	200	

12.2.2 ChuangxinMFMC-20000W 40mmCarbon steel perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	45	100	20	0.6	-6	200	
Median	20000	45	150	12	0.7	-8	2500	
low position	15000	50	150	8	0.7	-12	500	

12.2.3ChuangxinMFMC-20000W 30mmStainless steel nitrogen perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	55	2500	20	6	-8	200	
Median	20000	45	2500	15	8	-12	1500	
low position	20000	45	80	10	8	-16	500	

12.2.4 ChuangxinMFMC-20000W 3 0mmStainless steel oxygen perforation parameters (for reference only)

stage	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	45	100	20	0.6	-6	200	
Median	20000	45	100	12	0.8	-8	2000	

low position	12000	55	100	10	0.8	-12	500	

carbon steel /stainless steel thickness that can be penetrated under the current power as an example. The perforation parameters can be adjusted in a wide range, based on the actual effect. Parameters such as duty cycle and frequency can be adjusted to achieve the best effect; the perforations are sorted step by step in sequence, with the high position being the first level perforation, and so on.

Multiple modulesMFMC-30000W-150um cutting data

13. Multi-moduleMFMC-30000WCut data

13.1ChuangxinMFMC -30000W integratedLOEcore 150μmCut data (collimation 100mm / focus 200mm) _

MFMC-30000W continuous laser (150 μm)								
material material	thickness (mm)	speed (m/min)	power (W)	gas	air pressure (bar)	nozzle (mm)	focus Location (mm)	cutting height (mm)
carbon steel	8	14-16	30000	N2 / Air	10	4.5one	-1	0.5
	10	12-14			10	4.5one	-2	0.5
	12	8-10			12	4.5one	-3	0.5
	16	5-6			14	5.0one	-4	0.5
	20	1.5-2.0			20	6.0one	-6	0.5
	25	2.5-3.2			20	6.0one	-8	0.5
	10	2.3-2.6	6000	O2	0.6	1.2pair	+8	0.6
	12	1.8-2.1	6000		0.6	1.2pair	+9	0.6
	16	1.6-1.8	8500		0.5	1.4pair	+9	0.6
	20	1.5-1.6	12000		0.55	1.6pair	+12	0.6
	25	1.3-1.4	13000		0.8	1.6one	+13	0.3
	30	1.2-1.3	16000		0.8	1.7one	+13	0.3
	35	1.0-1.2	18000		0.8	1.8one	+14	0.3

40	1.0-1.1	22000
45	0.8-1.0	30000

1.2	1.8one	+15	0.3
1.3	1.8one	+15	0.3

	50	0.4-0.5	30000		1.5	1.8one	+16	0.3
No rust steel	8	18-22	30000	N 2 / Air	8	one5.0	-2	0.5
	10	13-16			10	one5.0	-2	0.3
	12	10-12			12	one5.0	-4	0.5
	16	7-8			13	one5.0	-5	0.5
	20	5.0-6.5			13	one5.0	-7	0.5
	25	2.8-3.5			18	one5.0	-10	0.5
	30	1.8-2.5			25	one6.0	-12	0.5
	35	1.4-1.8			30	one6.0	-15	0.5
	40	0.8-1.2			30	one6.0	-15	0.3
	50	0.2-0.25			30	one6.0	+6	0.3

the data may change due to factors such as machine tools, systems, cutting heads, air pressure, materials, etc. The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing. Only Suitable for small batch production , not recommended for mass production and processing, it is recommended

Use higher power lasers.

Multiple modulesMFMC-30000W-100um cutting data

14. Multiple modulesMFMC-30000WCut data

14.1ChuangxinMFMC -30000W integratedLOEcore 100μmCut data (collimation 100mm / focus 200mm) _

MFMC -30000W continuous laser (100μm)									
material material	thickness (mm)	speed (m/min)	power (W)	gas body	air pressure (bar)	nozzle (mm)	focus position (mm)	cutting height (mm)	Prepare Note
ca	8	20-25		null gas	10	4.5	-1	0.5	
	10	15-20			10	4.5	-2	0.5	

12	10-14	30000	/ nitrogen gas	12	4.5	-3	0.5
14	9.0-10.5			14	4.5	-3	0.5

	16	8.0-9.5			14	5.0	-4	0.5	
	18	6.0-7.0			20	5.0	-7	0.5	
	20	4.0-5.0			25	6.0	-10	0.5	
	10	2.2-2.5	6000		0.6	1.2	+8	0.6	
	12	1.9-2.1	6500		0.6	1.2	+9	0.6	
	14	1.8-1.9	8000		0.6	1.4	+10	0.6	
	16	1.6-1.8	8500		0.6	1.4	+11	0.6	
	18	1.5-1.7	11000		0.5	one1.5	+12~13	0.3	
	20	1.5-1.6	11000		0.5	one1.5	+12~13.5	0.3	
	twenty two	1.3-1.5	12000		0.5	one1.6	+12~13.5	0.3	
	25	1.25-1.4	12000		0.5	one1.6	+13~14.5	0.3	
	30	1.1-1.3	17000	Of 2	0.8	one1.6	+13~14.5	0.3	
	35	1.1-1.2	17000		1.0	one1.7	+13.8~14 .5	0.3	
	40	0.9-1.1	20000		1.2	one1.8	+14~15	0.3	2
	45	0.7-0.9	28000		1.2	one1.8	+15~+16	0.3	
	50	0.4-0.5	30000		1.3	one1.8	+15~+16	0.3	
	60	0.2-0.3	30000		1.6	one1.8	+16~+17	0.3	
	70	0.1-0.2	30000		1.6	one1.8	+16~+17	0.3	
	80	0.1-0.15	30000		1.6	one1.8	+16~+17	0.3	
No rust steel	6	30-35	30000	N2	8	4.5	+1~-2	0.5	
	8	25-28			8	5.0	-1 -2	0.5	
	10	20-22			8	5.0	-1 -3	0.5	
	12	15-17			10	5.0	-1 -5	0.5	

	14	10-12			14	5.0	-3 -5	0.5
	16	8.5-10.0			14	5.0	-4 -5	0.5
	18	6.0-7.0			16	5.0	-5 -6	0.5
	20	5.0-6.0			20	6.0	-5 -6	0.5
	25	3.0-4.0			20	6.0	-6.5~-7. 5	0.5
	30	2.0-2.5			25	8.0	-9.5 -10 .5	0.3
	35	1.5-1.8			25	8.0	-11 -13	0.3
	40	0.9-1.2			25	8.0	-15~-16. 5	0.3
	50	0.2-0.25			25	6.0	+8	0.3
	60	0.15-0.2			25	6.0	+9	0.3
	70	0.1-0.15			25	8.0	+9	0.3
	80	0.08-0.12			25	8.0	+9	0.3
	90	0.05-0.1			25	8.0	+9	0.3
	100	0.05-0.08			25	8.0	+9	0.3
Aluminum alloy	1	60-80	20000	N 2	8	3.0	0	0.5
	2	50-60			8	3.0	0	0.5
	3	35-45			8	3.0	-1	0.5
	4	30-40			8	3.0	-1	0.5
	5	20-25			10	4.5	-2	0.5
	6	15-22			10	4.5	-2	0.5
	8	14-20			10	5.0	-3	0.5
	10	8.0-10			10	5.0	-3	0.5
	12	7.0-8.0			10	5.0	-4	0.5

	14	4.0-6.0			12	5.0	-5	0.5	
	16	3.0-4.5			14	5.0	-6	0.5	
	18	2.3-3.0			14	5.0	-6	0.5	
	20	2.0-2.3			16	5.0	-7	0.5	
	25	1.0-1.5			18	6.0	-8	0.5	
	30	0.6-0.8			20	6.0	-8	0.5	
	40	0.3-0.6			25	6.0	8	0.5	
	50	0.3-0.4			28	6.0	8	0.5	
	60	0.2-0.3			28	6.0	8	0.5	
yellowcopper	1	50-60	20000	N 2	10	3.0	0	0.5	
	2	35-45			10	3.5	0	0.5	
	3	28-35			10	3.5	0	0.5	
	4	23-28			10	3.5	-1	0.5	
	5	15-20			12	4.5	-1	0.5	
	6	12-15			12	4.5	-1.5	0.5	
	8	8.0-10			12	5.0	-2	0.5	
	10	5.0-7.0			13	5.0	-3	0.5	
	12	3.5-5.5			14	5.0	-3	0.5	
	14	3.0-4.5			14	5.0	-Four	0.5	
	16	2.0-3.0			14	5.0	-Five	0.5	
	18	1.0-1.5			16	5.0	-6	0.5	
	20	0.7-0.9			18	6.0	-6.5	0.5	
purple	1	30-40	20000	O 2	8	3.0	0	0.5	3

copper oxygengas	2	22-30		8	3.0	0	0.5
	3	20-25		8	3.5	0	0.5
	4	15-18		10	3.5	-1	0.5
	5	12-14		10	5.0	-1	0.5
	6	7.0-9.0		10	5.0	-2	0.5
	8	4.5-5.5		10	5.0	-3	0.5
	10	3.0-3.5		12	5.0	-4	0.5
	12	2.0-2.5		14	5.0	-5	0.5

Remark 1: Carbon steel 1-20mm It is recommended to use air or nitrogen cutting. The cutting speed is faster than using oxygen, and there will be slight slag hanging. Remark 2:10-20mm Carbon steel oxygen cutting uses high-power and high-speed bright surface cutting technology, and the nozzle uses a high-speed double-layer tip nozzle. Depending on the on-site gas purity, plate quality, etc., the power used for debugging and the speed of debugging will also be different. Remark 3: In the copper cutting process, it must be Use oxygen for cutting, not air or nitrogen. Remarks: The red marked parameters in the table are proofing parameters, which are affected by various

Factors have a large impact and are only suitable for small batch production. Mass production and processing are not recommended.

14.2 Multiple modules MFMC-30000W core 100μm Piercing reference

14.2.1 Chuangxin MFMC -C30000W 30mm Carbon steel perforation parameters (for reference only)

	power W	duty cycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms

high position	15000	45	150	20	0.6	-4	200	
								200
Median	15000	45	100	12	0.6	-6	1000	
								300
low position	20000	55	100	8	0.6	-8	200	

14.2.2 ChuangxinMFMC-30000W 40mmCarbon steel perforation parameters (for reference only)

	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	45	100	20	0.6	-6	200	
								200
Median	20000	45	150	12	0.7	-8	2500	
								300
low position	15000	50	150	8	0.7	-12	500	

14.2.3ChuangxinMFMC-30000W30mm _Stainless steel nitrogen perforation parameters (for reference only)

	power W	dutycycle %	frequency Hz	Nozzle height mm	air pressure bar	focus mm	Puncture time ms	Stop light and blow air ms
high position	20000	55	2500	20	6	-8	200	
								200
Median	20000	45	2500	15	8	-12	1500	
								200
low position	20000	45	80	10	8	-16	500	

14.2.4 ChuangxinMFMC-30000W 30mmStainless steel oxygen perforation parameters (for reference only)

	power W	dutycycle %	frequency	Nozzle height mm	air pressur	focus mm	Puncture time	Stop light and blow air

			Hz		e bar		ms	ms
high position	20000	45	100	20	0.6	-6	200	
								200
Upper middle	20000	45	100	12	0.8	-8	2000	
								200
low position	12000	55	100	10	0.8	-12	500	