| MFSC -1500X CW laser (50 μm ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| material material | thickness mm | speed m/ min | power W | gas | 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 | | | 1.5 | 1.0pair | +5 | 0.6 |
| | 3 | 3-4 | | | 0.6 | 1.0pair | +5 | 0.6 |
| | 4 | 2.3-2.8 | 1500 | O 2 | 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.

2.2 single module MFSC -1500X core 50μm Piercing reference

Chuangxin MFSC-1500X 16mm Carbon 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.

| MFSC-2000X CW laser (50 μm ) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Material | mm | Speed | power | gas | bar | nozzle mm | focus 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 |
| | 1 | 15-18 | | | 10 | 2.0one | 0 | 0.8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2 | 6.0-8.0 | 2000 | N 2 | 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 -2000X core 50μm Piercing 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 position | 2000 | 55 | 100 | 20 | 0.8 | -2 | 200 | |
| 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.

4.1 ChuangxinMFSC - 3000X QBOutput core50μmCut data (collimation100mm / focus125mm ) _

| 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.