



## 版权说明

“ ”

---

## 引 语

MD

MD

## 公司简介

2004

<http://www.maxphotonics.com>



深圳市创鑫激光股份有限公司

:  
: <http://www.maxphotonics.com>  
: 400-900-9588  
: +86-755-36869371  
: [info@maxphotonics.com](mailto:info@maxphotonics.com)

|             |           |
|-------------|-----------|
| .....       | 1         |
| .....       | 4         |
| .....       | 5         |
| 1- .....    | 5         |
| 2- .....    | 6         |
| 3- .....    | 6         |
| 4- .....    | 7         |
| 5- .....    | 11        |
| .....       | <b>12</b> |
| 1- .....    | 12        |
| 2- .....    | 12        |
| 3- .....    | 12        |
| 4- .....    | 13        |
| 5- .....    | 13        |
| 6- .....    | 13        |
| 7- .....    | 14        |
| .....       | <b>15</b> |
| 1- .....    | 15        |
| 2- .....    | 16        |
| 3- .....    | 16        |
| 4-QBH ..... | 17        |
| 5- .....    | 18        |
| 6- .....    | 19        |

|    |       |           |
|----|-------|-----------|
|    | ..... | <b>20</b> |
| 1- | ..... | 20        |
| 2- | ..... | 21        |
|    | ..... | <b>22</b> |
| 1- | ..... | 22        |
| 2- | ..... | 22        |
| 3- | ..... | 23        |
| 4- | ..... | 24        |
| 5- | ..... | 26        |
| 6- | ..... | 27        |
| 7- | ..... | 27        |
| 8- | ..... | 31        |
|    | ..... | <b>32</b> |
| 1- | ..... | 32        |
| 2- | ..... | 32        |
|    | ..... | <b>34</b> |
| 1- | ..... | 34        |
| 2- | ..... | 34        |
|    | ..... | <b>35</b> |
| 1- | ..... | 35        |
| 2- | ..... | 35        |

# 第一章 特性说明

MD 1000-1500W

910-930nm






>45%

MD

Class 4

## 第二章 安全信息

1 -

| 安全标识  | 描述  |
|---|---|
|    |   |
|   |   |
|  |   |
|   |   |

MD

910~930 nm

## 2-

### 1. 激光防护要求

### 2. 激光防护设备商

LaserVision USA   Kentek Corporation   Rochwell Laser Industries

## 3-

### 电磁兼容与抗干扰性：

EN 55011:2010

EN 55024:2010+A1:2015

EN 55032:2015

CISPR 11

FCC PART 15 Class A

ICES-003 issue 6, Class A

EN 61000-3-3:2013

EN 61000-3-2:2014

EN 61000-4-2:2009

EN 61000-4-3:2006+A2:2010

EN 61000-4-4:2012

EN 61000-4-5:2014+A1:2017

EN 61000-4-6:2014

EN 61000-4-8:2010

EN 61000-4-11:2004+A1:2017

#### 供电安全：

EN 61010-1:2010

#### 激光安全：

EN 60825-1:2014

CDRH 21 CFR 1040.10

#### 功能安全：

EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

|            |     |         |           |
|------------|-----|---------|-----------|
|            | MD  | CE EMC  | " EMC     |
| Directive" | EMC |         |           |
|            | MD  | Class 4 |           |
|            |     | Class 4 | EN 60825- |
| 1          | 8   |         |           |

## 4 -

### 1. 镜面反射

## 2. 配件安全须知

MD

## 3. 光学操作须知

创鑫激光强烈建议您在操作激光器前，阅读下述操作要点：

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

11

#### 4. 电气操作须知

创鑫激光强烈建议您在操作激光器前，阅读下述操作要点：

1

2

3

4

200-240VAC-1000X  
1500X

200-240VAC-1500X

360-440VAC-

5

6

7

200-240VAC-1000X

200-240VAC-1500X

360-440VAC-1500X

## 5. 激光器操作环境要求

创鑫激光推荐您按照如下的措施操作，以便延长激光器的使用寿命：

1

2

0

## 5-

如果您需要获取更多的激光器安全方面的信息，请参考：

Laser Institute of America(LIA)

13501 Ingenuity Drive, Suite 128

Orlando,Florida 32826

Phone:407 380 1553,Fax: 407 380 5588

Toll Free:1 800 34 LASER

American National Standards Institute

ANSI Z136.1, American National Standard for the Safe Use of Lasers

(Available through LIA)

International Electro-technical Commission

IEC 60825-1, Edition 1.2

Center for Devices and Radiological Health

21 CFR 1040.10 - Performance Standards for Light-Emitting Products

US Department of Labor - OSHA

Publication 8-1.7 - Guidelines for Laser Safety and Hazard Assessment.

Laser Safety Equipment

Laurin Publishing

Laser safety equipment and Buyer's Guides

## 第三章 产品描述

1-

MD 1000-1500W

主要特性:

- 1
- 2
- 3
- 4
- 5

应用领域:

- 1
- 2

2-

6

3-

| 型号命名     | 型号含义  |
|----------|-------|
| MD-1000W | 1000W |
| MD-1500W | 1500W |

4-

5-



| 名称               | 功能说明 |
|------------------|------|
| (OFF/ON)         |      |
| (EMERGENCY STOP) |      |
| START            |      |
| ALARM            |      |
| ACTIVE           |      |
| POWER            |      |

6-



| 名称                              | 功能说明                  |
|---------------------------------|-----------------------|
| CTRL                            |                       |
| AC 220V MD-1000)                | 200-240VAC            |
| POWER MD-1000)                  | 200-240VAC            |
| AC 220V MD-1500<br>AC 380V (G4) | 200-240VAC 360-440VAC |
| POWER MD-1500)                  | 200-240VAC 360-440VAC |
| WATER OUT                       |                       |
| WATER IN                        |                       |
| OPTICAL OUTPUT                  |                       |
| ETHERNET                        |                       |

## 7-

## 1. 光纤输出头

## 6.4

## QBH

## G4.1 QBH



## G4 QBH



## 第四章 详细规格

### 1-

| 序号 | 特性参数    | 测试条件            | 最小值                    | 典型值  | 最大值 | 单位           |
|----|---------|-----------------|------------------------|------|-----|--------------|
| 1  |         | /               |                        |      |     |              |
| 2  |         |                 |                        |      |     |              |
| 3  | MD-1000 | 100%            |                        | 1000 |     | W            |
|    | MD-1500 | 100%            |                        | 1500 |     |              |
| 4  |         |                 | 10                     |      | 100 | %            |
| 5  |         | 100%            | 910                    | 920  | 930 | nm           |
| 6  | 3dB     | 100%            |                        | 3    | 5   | nm           |
| 7  |         | 100% >1h        |                        | ± 1  | ± 3 | %            |
| 8  |         | 100% >24h       |                        | ± 2  | ± 5 | %            |
| 9  | BPP     | 100%<br>(300μm) |                        | 25   | 28  | mm x<br>mrad |
|    |         | 100%<br>(400μm) |                        | 30   | 33  |              |
| 10 |         | 10% 90%         |                        | 50   | 100 | μs           |
| 11 |         | 90% 10%         |                        | 50   | 100 | μs           |
| 12 |         | 100%            |                        |      | 20  | KHz          |
| 13 |         | 100%            | 150                    |      |     | μW           |
| 14 |         |                 |                        | 15   |     | m            |
| 15 |         |                 | 300@1000W<br>400@1500W |      |     | μm           |
| 16 |         |                 | 200                    |      |     | mm           |
| 17 |         | QBH             |                        |      |     |              |

## 2-

| 序号 | 特性参数                | 测试条件  | 最小值 | 典型值 | 最大值 | 单位  |
|----|---------------------|-------|-----|-----|-----|-----|
| 1  |                     |       | 180 | 220 | 240 | VAC |
| 2  | MD-1000X            | 100%  |     |     | 2.2 | KW  |
|    | MD-1500X            | 100%  |     |     | 3.3 |     |
| 3  |                     |       | 10  |     | 40  |     |
| 4  |                     |       | 10  |     | 85  | %   |
| 5  |                     |       |     |     |     |     |
| 6  |                     |       | -10 |     | 60  |     |
| 7  | 482.6*550*133 W*D*H |       |     |     |     | mm  |
| 8  | MD-1000             | 32± 2 |     |     |     | kg  |
|    | MD-1500             | 36± 2 |     |     |     |     |

## 3-

| 序号 | 特性      | 参数  |    | 单位    |
|----|---------|-----|----|-------|
| 1  |         |     |    |       |
| 2  |         | 30  | 30 |       |
|    |         | 26  | 22 |       |
| 3  |         | 3   |    | bar   |
| 4  | MD-1000 | 10  |    | L/min |
|    | MD-1500 | 15  |    |       |
| 5  | MD-1000 | 2.5 |    | kw    |
|    | MD-1500 | 3.5 |    |       |

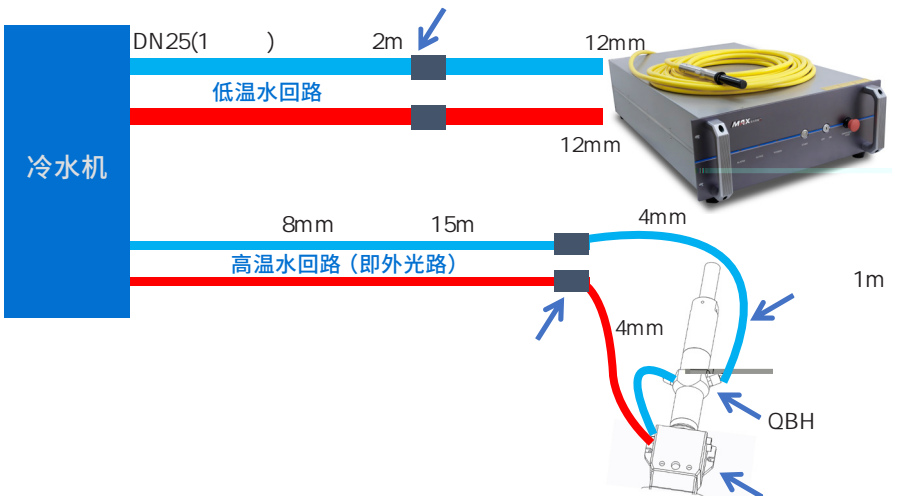
p 0.5bar

0

### 4-QBH 水冷条件

| 冷却方式 | 水管尺寸要求   | 水流量 (L/min) | 水压 (bar) | 冷却水温 (°C) |
|------|----------|-------------|----------|-----------|
|      | * = 6* 4 | 2           | 3        | 28-30     |

8mm 15m ;  
 QBH 6 1m ;  
 QBH ;  
 p 1.5bar



## 5- 安装环境需求

1 1000

2 10 - 40

3 10% - 85%

4 :

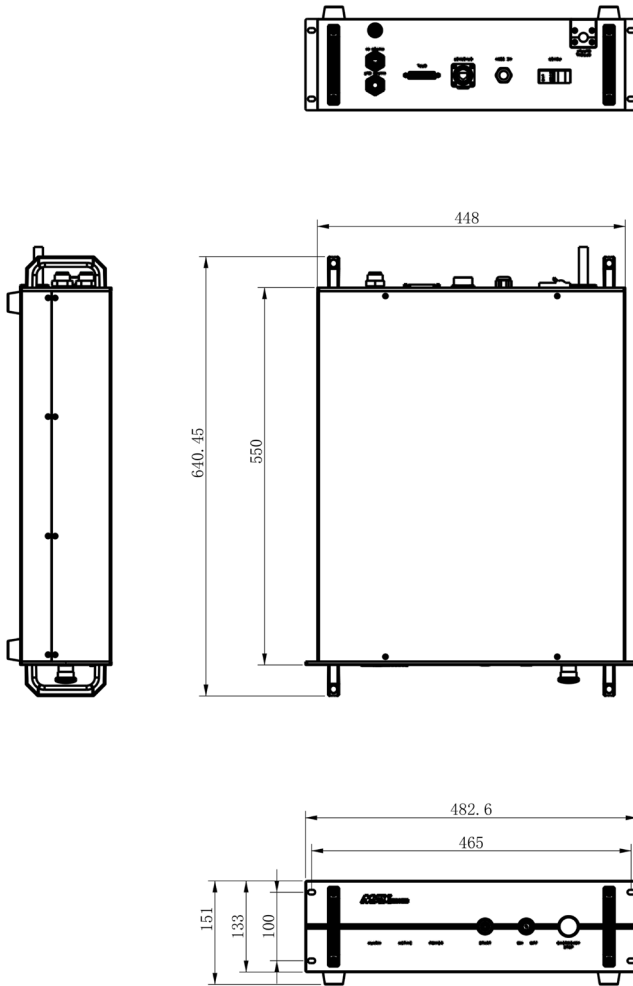
| 环境温度、相对湿度、露点对照表 |            |      |      |      |     |      |      |      |      |      |      |      |      |      |    |
|-----------------|------------|------|------|------|-----|------|------|------|------|------|------|------|------|------|----|
| 相对湿度%           | 30         | 35   | 40   | 45   | 50  | 55   | 60   | 65   | 70   | 75   | 80   | 85   | 90   | 95   |    |
| 环境温度(°C)        | 露点 Td (°C) |      |      |      |     |      |      |      |      |      |      |      |      |      |    |
| 10              | -7.0       | -5.0 | -3.0 | -1.3 | 0.0 | 1.5  | 2.5  | 3.6  | 4.8  | 5.9  | 6.7  | 7.6  | 8.4  | 9.2  |    |
| 11              | -6.5       | -4.0 | -2.0 | -0.5 | 1.0 | 2.5  | 3.5  | 4.3  | 5.8  | 6.7  | 7.7  | 8.6  | 9.4  | 10.2 |    |
| 12              | -5.0       | -3.0 | -1.0 | 0.5  | 2.0 | 3.3  | 4.4  | 5.5  | 6.7  | 7.7  | 8.7  | 9.5  | 10.9 | 11.2 |    |
| 13              | -4.5       | -2.0 | -0.2 | 1.4  | 2.8 | 4.1  | 5.3  | 6.6  | 7.7  | 8.7  | 9.6  | 10.5 | 11.4 | 12.2 |    |
| 14              | -3.2       | -1.0 | 0.7  | 2.2  | 3.5 | 5.1  | 6.4  | 7.5  | 8.6  | 9.6  | 10.6 | 11.5 | 12.4 | 13.2 |    |
| 15              | -2.3       | -0.3 | 1.5  | 3.1  | 4.6 | 6.0  | 7.3  | 8.4  | 9.6  | 10.6 | 11.6 | 12.5 | 13.4 | 14.2 |    |
| 16              | 13.5       | 14.5 | 15.3 | 16.2 | 17  | -0.5 | 1.5  | 3.2  | 5.0  | 6.5  | 8.0  | 9.2  | 10.2 | 11.5 | 12 |
| 17              | 14.5       | 15.4 | 16.4 | 17.2 | 18  | 0.2  | 2.3  | 4.0  | 5.8  | 7.4  | 9.0  | 10.2 | 11.3 | 12.5 | 13 |
| 18              | 15.4       | 16.5 | 17.3 | 18.2 | 19  | 1.0  | 3.2  | 5.0  | 7.2  | 8.4  | 9.8  | 11.0 | 12.2 | 13.4 | 14 |
| 19              | 16.5       | 17.4 | 18.3 | 19.2 | 20  | 2.0  | 4.0  | 6.0  | 7.8  | 9.4  | 10.7 | 12.0 | 13.2 | 14.4 | 15 |
| 20              | 17.4       | 18.4 | 19.3 | 20.2 | 21  | 2.8  | 5.0  | 7.0  | 8.6  | 10.2 | 11.0 | 12.9 | 14.2 | 15.3 | 16 |
| 21              | 18.4       | 19.4 | 20.3 | 21.2 | 22  | 3.5  | 5.8  | 7.8  | 9.5  | 11.0 | 12.5 | 13.8 | 15.2 | 16.3 | 17 |
| 22              | 19.4       | 20.4 | 21.3 | 22.2 | 23  | 4.4  | 6.8  | 8.7  | 10.4 | 12.0 | 13.5 | 14.8 | 16.2 | 17.3 | 18 |
| 23              | 20.4       | 21.4 | 22.3 | 23.1 | 24  | 5.3  | 7.7  | 9.7  | 11.4 | 13.0 | 14.5 | 15.8 | 17.0 | 18.2 | 19 |
| 24              | 21.3       | 22.3 | 23.2 | 23.9 | 25  | 6.2  | 8.6  | 10.5 | 12.3 | 14.0 | 15.4 | 16.8 | 18.0 | 19.1 | 20 |
| 25              | 22.3       | 23.3 | 24.2 | 25.1 | 26  | 7.0  | 9.4  | 11.4 | 13.2 | 14.8 | 16.3 | 17.7 | 19.0 | 20.1 | 21 |
| 26              | 23.2       | 24.3 | 25.2 | 26.1 | 27  | 8.0  | 10.3 | 12.2 | 14.0 | 15.8 | 17.3 | 18.7 | 19.9 | 21.1 | 22 |
| 27              | 24.2       | 25.2 | 26.2 | 27.1 | 28  | 8.8  | 11.2 | 13.2 | 15.0 | 16.7 | 18.0 | 19.6 | 20.9 | 22.0 | 23 |
| 28              | 25.2       | 26.2 | 27.2 | 28.1 | 29  | 9.7  | 12.0 | 14.0 | 15.9 | 17.6 | 19.2 | 20.5 | 21.3 | 23.0 | 24 |
| 29              | 26.2       | 27.2 | 28.2 | 29.1 | 30  | 10.5 | 12.9 | 14.9 | 16.8 | 18.5 | 20.0 | 21.4 | 22.8 | 23.9 | 25 |
| 30              | 26.9       | 28.2 | 29.2 | 30.1 | 31  | 11.4 | 13.8 | 15.9 | 17.8 | 19.4 | 20.9 | 22.4 | 23.0 | 24.8 | 26 |
| 31              | 28.1       | 29.2 | 30.1 | 31.1 | 32  | 12.2 | 14.7 | 16.8 | 18.6 | 20.3 | 21.9 | 23.3 | 24.6 | 25.8 | 27 |
| 32              | 29.0       | 30.1 | 32.1 | 32.1 | 33  | 13.0 | 15.6 | 17.6 | 19.6 | 21.3 | 22.9 | 24.2 | 25.6 | 26.8 | 28 |
| 33              | 29.5       | 31.1 | 32.1 | 33.1 | 34  | 13.9 | 16.5 | 18.6 | 20.5 | 22.2 | 23.8 | 25.2 | 26.5 | 27.7 | 29 |
| 34              | 31.0       | 32.1 | 33.1 | 34.1 | 35  | 14.9 | 17.4 | 19.5 | 21.4 | 23.0 | 24.6 | 26.2 | 27.5 | 28.7 | 29 |
| 35              | 32.0       | 33.1 | 34.1 | 35.2 | 36  | 15.7 | 18.1 | 20.3 | 22.2 | 24.0 | 25.0 | 27.0 | 28.4 | 29.0 | 30 |
| 36              | 33.0       | 34.1 | 35.2 | 36.2 | 37  | 16.6 | 19.2 | 21.2 | 23.2 | 24.9 | 26.5 | 27.9 | 29.5 | 30.7 | 31 |
| 37              | 33.9       | 35.1 | 36.0 | 37.0 | 38  | 17.5 | 19.9 | 22.0 | 23.9 | 25.8 | 27.4 | 28.9 | 30.3 | 31.5 | 32 |
| 38              | 34.9       | 36.2 | 36.8 | 38.1 | 39  | 18.1 | 20.8 | 23.0 | 24.9 | 26.6 | 28.3 | 29.8 | 31.2 | 32.5 | 33 |
| 39              | 35.8       | 36.8 | 38.1 | 39.1 | 40  | 19.2 | 21.6 | 23.8 | 25.8 | 27.6 | 29.2 | 30.7 | 32.1 | 33.5 | 34 |

30

70%

6-

mm



## 第五章 拆装指南

### 1-

激光器属于精密贵重物品，创鑫激光推荐您按如下步骤，依步拆装包装箱：

1

2

3

>200mm

4

5

6

2-

| 序号 | 名称  | 规格型号    | 单位 | 数量 |
|----|-----|---------|----|----|
| 1  |     | MD XXXX |    | 1  |
| 2  |     | 3       |    | 1  |
| 3  |     |         |    | 2  |
| 4  |     |         |    | 4  |
| 5  | QBH | 6x4mm   |    | 1  |
| 6  |     | 12x8mm  |    | 1  |
| 7  |     | 10m     |    | 1  |

# 第六章 使用指南

1-

4  
2

2-

32A

4



**3-**

CTRL

DB25

CTRL

输入

功率输入  
0-10V  
T>20ms  
红光输出

激光输出

## 4-

### 1. 工具

清洁光纤连接器，您需要如下器材：

- 1
- 2
- 3 >99.5%
- 4
- 5
- 6

99.5%

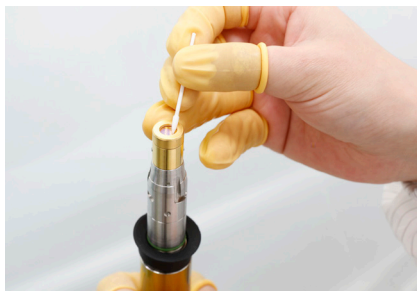
### 2. 操作步骤

请按照如下流程对光纤连接器进行清洁维护：

- 1 " OFF"
- 2
- 3 20
- 4
- 5

6

7



5-

启动流程如下所示：

1

2

3

4

5

6

“ ON”

7

START

## 6-

激光器工作模式如下：

1  
2 O-10V  
START

## 7-

1 " " " \_" " \_" " " G3 -  
" " NET4.6" " G3-Series-n.n.n.n"

<http://www.maxphotonics.com/Cn/Software.html>

MAX 创鑫激光 产品 应用 服务 创鑫 联系 CN / EN 400-900-9588 快速链接 Q

### 下载中心

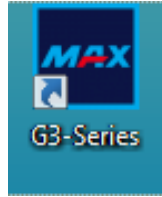
说明书 安装视频 安装软件

|   |   |   |   |
|---|---|---|---|
| G3系列 软件安装指导书 v1.2<br>Updated:2020-06-15                 | ↓ | G3-Series(Custom) -zh- 1.0.0.81<br>Updated:2020-09-24 | ↓ |
| NET 4.0 安装包<br>Updated:2020-04-17                       | ↓ | NET4.6<br>Updated:2020-04-17                          | ↓ |
| G2-Series及G3-300W-500W - 1.0.0.12<br>Updated:2020-04-02 | ↓ | MOPA智能机-MPS-20-V2.5.6<br>Updated:2020-04-16           | ↓ |
| MOPA智能机-MPS-20-V2.5.5<br>Updated:2020-04-17             | ↓ | MOPA智能机-MPS-20-V2.4.0<br>Updated:2020-04-17           | ↓ |

2 G3 -  
NET4.6 G3-Series-n.n.n.n Win10  
.NET 4.6 NET4.6

3

" G3-Series"



4

RS232

EtherNet

PC

5

" G3-Series"



6

RS232

COM

COM

COM

" "

7

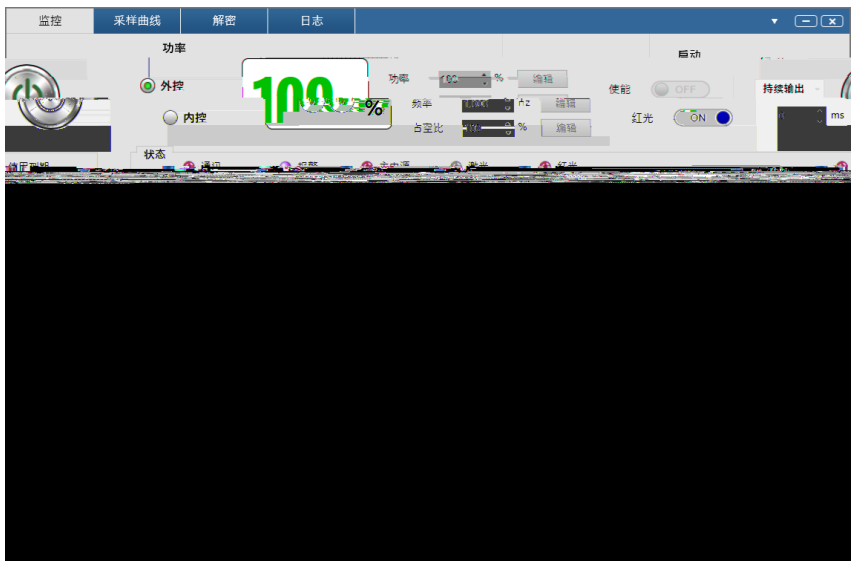
EtherNet

IP2

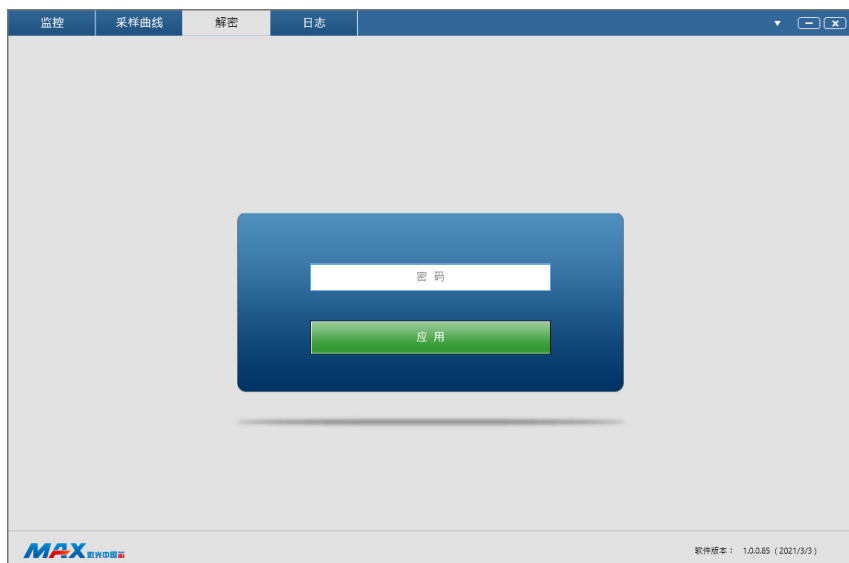
IP

192.168.0.178

" "



8

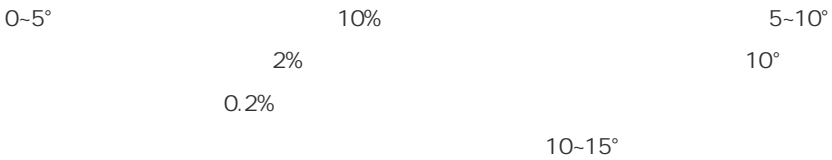


8-

| 序号 | 故障名称 | 故障原因 | 备注             |
|----|------|------|----------------|
| 1  |      |      |                |
| 2  |      |      |                |
| 3  |      |      |                |
| 4  | /    |      |                |
| 5  |      |      |                |
| 6  |      |      |                |
| 7  | QBH  | QBH  | QBH QBH<br>QBH |
| 8  |      |      | ALARM ACTIVE   |

## 第七章 加工应用客户操作指导规范

### 1- 回返光的影响



### 2- 安装操作

- 1 QBH
- 2
- 3



QBH

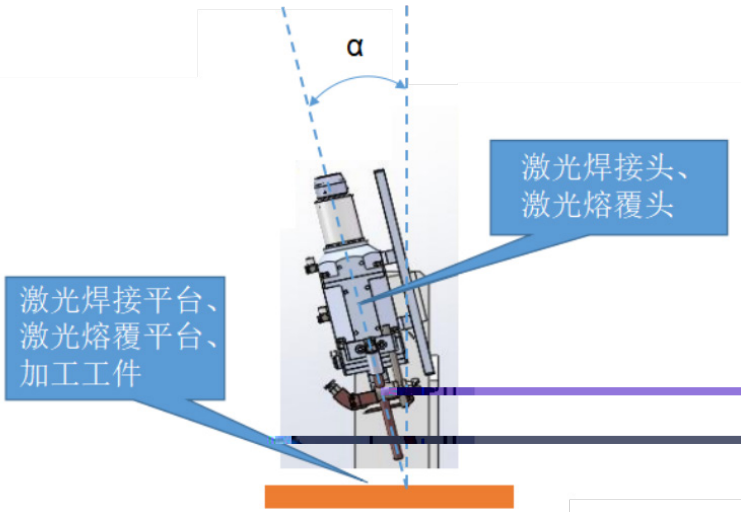
QBH

QBH

/

10-15

10-15



## 第八章 服务与维修

1-

2-

400-900-9588

## 第九章 保修声明

1-

2-

1  
2  
3  
4  
5  
6