

**MAX** 创鑫激光



**MFSC-3000 单模块连续焊接 / 熔覆光纤激光器**

# 使用手册

深圳市创鑫激光股份有限公司

# 版权说明

“ ”

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# 引 语

MFSC

MFSC 3000

## 公司简介

2004

<http://www.maxphotonics.com>



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

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# 第一章 特性说明




MFSC  
MFSC  
>37%  
MFSC

1060nm    1100 nm

Class 4

## 第二章 安全信息

### 1 - 安全规定

MFSC

1060nm~1100 nm

## 2 - 激光防护

1.

2.

LaserVision USA   Kentek Corporation   Rochwell Laser Industries

## 3- 引用标准

EN IEC 61000-6-4:2019

CISPR 16-2-1

CISPR 16-2-3

EN IEC 61000-6-2:2019

EN 61000-4-2:2009

EN 61000-4-3:2020

EN 61000-4-4:2012

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

EN 61000-4-6:2014

EN 61000-4-11:2020

## 4 - 一般安全指示

1.

2.

## MFSC

3

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11

12

“

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4

1

2

3

4

20A

5

360-

440VAC

6

7

400±10

5

1

2

3

0

## 5- 更多安全信息

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- 特性简介

MFSC

1

2

3

4

5

1

2

### 2- 模块配置

6

6.3-6.6

### 3- 激光器型号说明

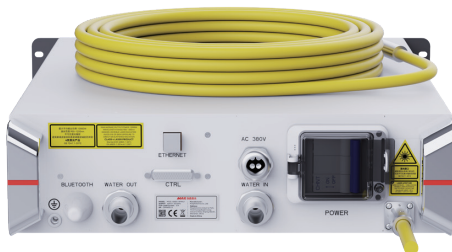
M- F- S- C- XXX- XX	
1- 2- 3- 4- 5- 6	
1	M Maxphotronics
2	F Fiber Laser
3	S Single Mode /
4	C ContinueWave
5	XXXX XXXX W
6	


## 4- 合格证

## 5- 前面板说明



## 6- 后面板说明

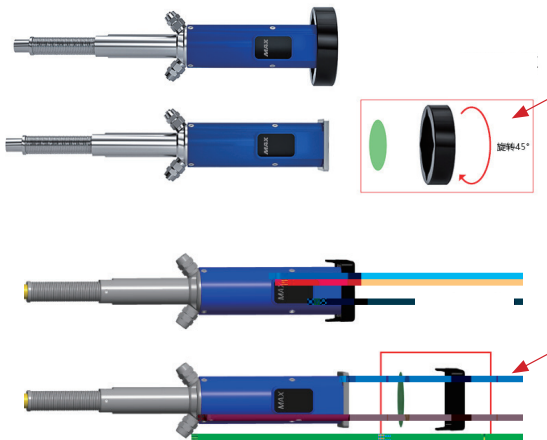


ETHERNET	
CTRL	
ACTIVE/ALARM	
BLUETOOTH	
AC380V	360-440VAC
POWER	360-440VAC
WATER OUT	3/4
WATER IN	3/4
OPTICAL OUTPUT	
	

## 7- 光输出端子

1.

QBH



## 第四章 详细规格

### 1- 光学特性参数表

1		/				
2						
3		100%		3000		W
4			10		100	%
5		100%	1075	1080	1085	nm
6	3dB	100%		4	6	nm
7		100%	>1h	± 1	± 1.5	%
8	BPP	100um	2.8		3.8	mm x mrad
		150um	5		6.5	
		200um	7		9	
		300um	10		13	
		400um	14		20	
		600um	24		30	
		800um	35		45	
9		100%			20	KHz
10		100%	200			μW
11		QBH		20		m
12		100 200/400 /600				μm
13			200			mm
14		QBH LOC /LOE				

## 2- 一般特性参数表

1			360	400	440	VAC
2		100%			10	KW
3			10		40	
4			10		85	%
5						
6			-10		60	
7		420*587*115 W*D*H				mm
8		35.5± 2				kg

## 3- 水冷条件

1				
2		24	20	
			20	
3		3		bar
4		25		L/ min
5		7.5		kw

40                      22± 2 (                      20 )

;

p 0.5bar

;

0

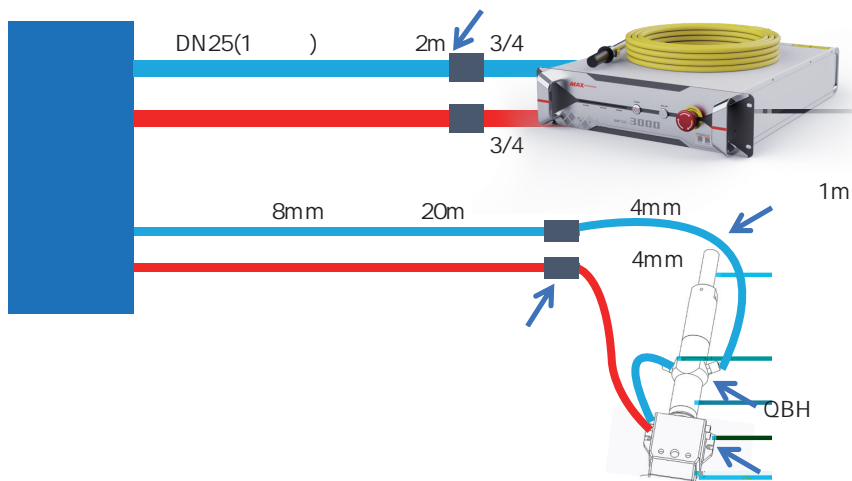
20%                      (                      )

0

## 4-QBH

		L/min	bar	
	*	2	3	28-30
	= 6* 4			

8mm 20m ;  
 QBH 6 1m ;  
 QBH ;  
 p 1.5bar



5-

1

1000

2

10 - 40

3

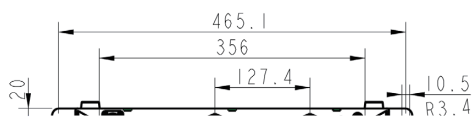
10% - 85%

4

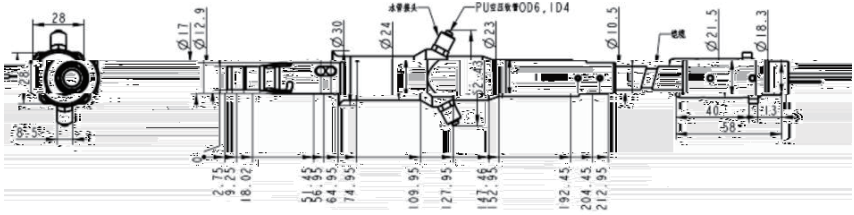
		- - 对照表													
%	30	35	40	45	50	55	60	65	70	75	80	85	90	95	
)	Td ( )														
10	-7.0	-5.0	-3.0	-1.3	0.0	1.5	2.5	3.6	4.8	5.8	6.7	7.6	8.4	9.2	
11	-6.5	-4.0	-2.0	-0.5	1.0	2.5	3.5	4.8	5.8	6.7	7.7	8.6	9.4	10.2	
12	-5.0	-3.0	-1.0	0.5	2.0	3.3	4.4	5.5	6.7	7.7	8.7	9.5	10.9	11.2	
13	-4.5	-2.0	-0.2	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	-1.3	0.5	2.4	4.0	5.6	7.0	8.3	9.5	10.6	11.6	12.6	13.4	14.3	15.2	
17	-0.5	1.5	3.2	5.0	6.5	8.0	9.2	10.2	11.5	12.5	13.5	14.5	15.3	16.2	
18	0.2	2.3	4.0	5.8	7.4	9.0	10.2	11.3	12.5	13.5	14.5	15.4	16.4	17.2	
19	1.0	3.2	5.0	7.2	8.4	9.8	11.0	12.2	13.4	14.5	15.4	16.5	17.3	18.2	
20	2.0	4.0	6.0	7.8	9.4	10.7	12.0	13.2	14.4	15.4	16.5	17.4	18.3	19.2	
21	2.8	5.0	7.0	8.6	10.2	11.0	12.9	14.2	15.3	16.4	17.4	18.4	19.3	20.2	
22	3.5	5.8	7.8	9.5	11.0	12.5	13.8	15.2	16.3	17.3	18.4	19.4	20.3	21.2	
23	4.4	6.8	8.7	10.4	12.0	13.5	14.8	16.2	17.3	18.4	19.4	20.4	21.3	22.2	
24	5.3	7.7	9.7	11.4	13.0	14.5	15.8	17.0	18.2	19.3	20.4	21.4	22.3	23.1	
25	6.2	8.6	10.5	12.3	14.0	15.4	16.8	18.0	19.1	20.3	21.3	22.3	23.2	23.9	
26	7.0	9.4	11.4	13.2	14.8	16.3	17.7	19.0	20.1	21.2	22.3	23.3	24.2	25.1	
27	8.0	10.3	12.2	14.0	15.8	17.3	18.7	19.9	21.1	22.2	23.2	24.3	25.2	26.1	
28	8.8	11.2	13.2	15.0	16.7	18.0	19.6	20.9	22.0	23.0	24.2	25.2	26.2	27.1	
29	9.7	12.0	14.0	15.9	17.6	19.2	20.5	21.3	23.0	24.1	25.2	26.2	27.2	28.1	
30	10.5	12.9	14.9	16.8	18.5	20.0	21.4	22.8	23.9	25.1	26.2	27.2	28.2	29.1	
31	11.4	13.8	15.9	17.8	19.4	20.9	22.4	23.0	24.8	26.0	26.9	28.2	29.2	30.1	
32	12.2	14.7	16.8	18.6	20.3	21.9	23.3	24.6	25.8	27.0	28.1	29.2	30.1	31.1	
33	13.0	15.6	17.6	19.6	21.3	22.9	24.2	25.6	26.8	28.0	29.0	30.1	32.1	32.1	
34	13.9	16.5	18.6	20.5	22.2	23.8	25.2	26.5	27.7	29.0	29.5	31.1	32.1	33.1	
35	14.9	17.4	19.5	21.4	23.0	24.6	26.2	27.5	28.7	29.9	31.0	32.1	33.1	34.1	
36	15.7	18.1	20.3	22.2	24.0	25.0	27.0	28.4	29.0	30.9	32.0	33.1	34.1	35.2	
37	16.6	19.2	21.2	23.2	24.9	26.5	27.9	29.5	30.7	31.8	33.0	34.1	35.2	36.2	
38	17.5	19.9	22.0	23.9	25.8	27.4	28.9	30.3	31.5	32.0	33.9	35.1	36.0	37.0	
39	18.1	20.8	23.0	24.9	26.6	28.3	29.8	31.2	32.5	33.8	34.9	36.2	36.8	38.1	
40	19.2	21.6	23.8	25.8	27.6	29.2	30.7	32.1	33.5	34.7	35.8	36.8	38.1	39.1	

## 6- 结构布局

mm

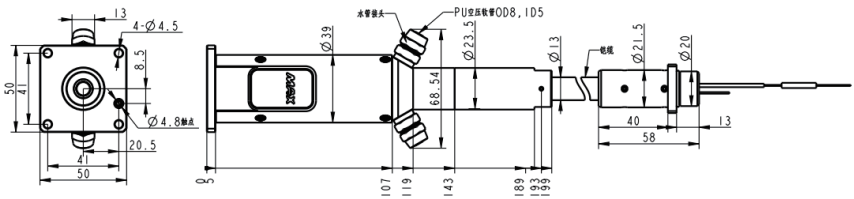


mm



G5QBH

mm



## 第五章 拆装指南

### 1- 拆装步骤

1

2

3

"

"

4

QBH

>200mm

5

1

6

## 2- 装箱清单

1		MFSC-3000-BKW6.1		1
2		3m		1
3	QBH	6x4mm		1
4		19.1* 29mm		1
5		26-38mm		2
6		/		1
7		/		1
8	2*2	/		6
9		/		1
10		12*28.5mm		6

## 第六章 使用指南

### 1- 注意事项

" "

" "

### 2- 电源连接

20A

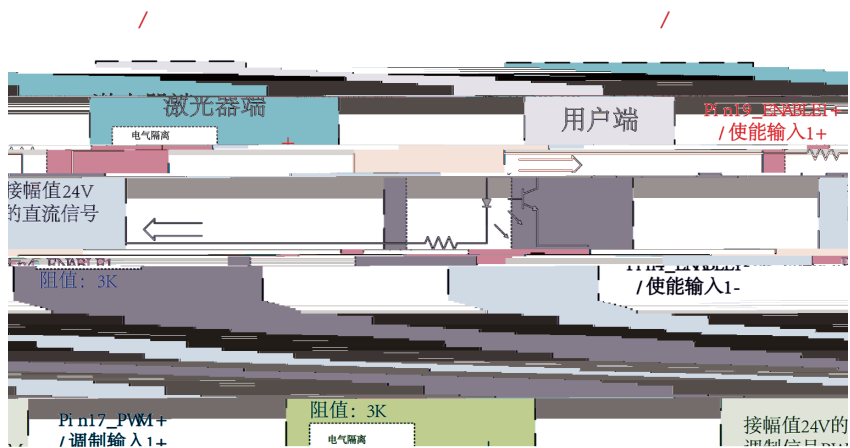
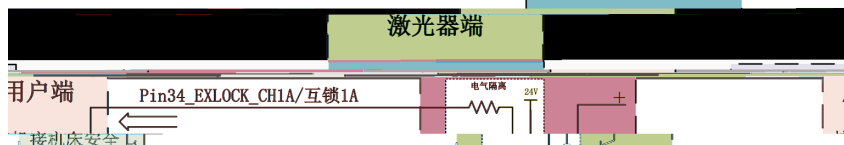
" "

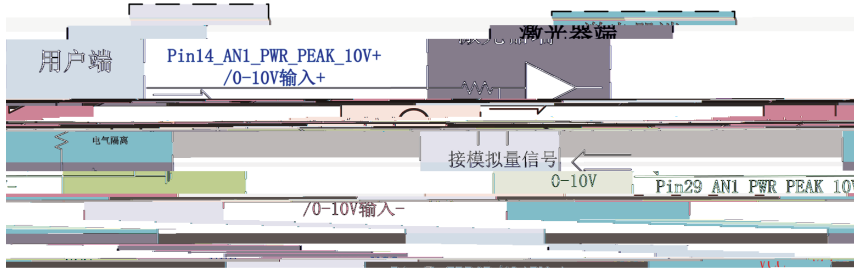
### 3- 扩展接口

CTRL

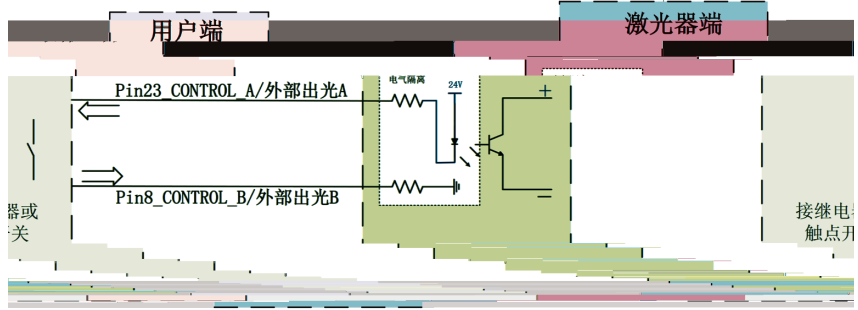
DB44

CTRL				
34		EXLOCK_CH1A	1A	AB
33		EXLOCK_CH1B	1B	AB
38		EMERGENCY1_ INPUT 1A	1A	
37		EMERGENCY1_ INPUT 1B	1B	
19		ENABLE1+	1+	20VDC V 30VDC OVDC V 5VDC
4		ENABLE1-	1-	I 5mA
17		PWM1+	1+	20VDC V 30VDC OVDC V 5VDC
2		PWM1-	1-	I 5mA
14		AN1_PWR_ PEAK_10V+	0-10V +	1V-10%
29		AN1_PWR_ PEAK_10V-	0-10V -	10V-100% I 1mA
40		ERROR/ALARM_A	A	- V 30VDC, -
39		ERROR/ALARM_B	B	I 100mA
13	NC			
23		CONTROL A	A	AB
8		CONTROL B	B	AB
			PE	





V 30V, I 100mA



：

( ) / ;

### 4- 启动步骤

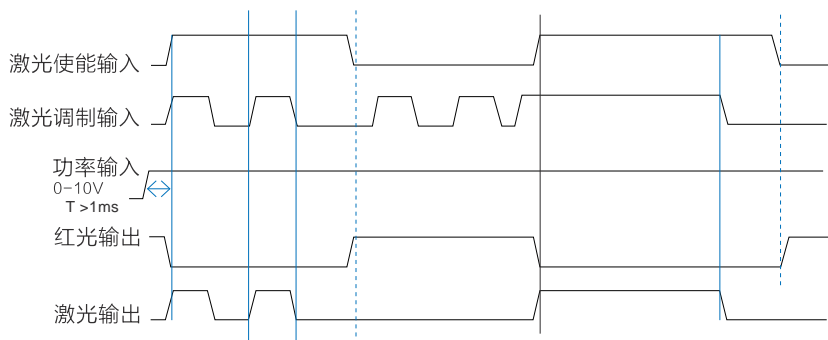
- 1
- 2
- 3
- 4
- 5

## 5- 模式说明

- 1
- 2
- 3
- 4

PWM

PWM



4

1HZ

### 6- 软件安装及使用说明

1 " " " " " NET4.6" G6-Series-n.  
 n.n.n" G6 - "

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



2 NET4.6 Win10 .NET 4.6  
 NET4.6

3 G6-Series-n.n.n.n " G6-Series"



4 EtherNet

5 IP IP IP IP  
192.168.0.178

6 " G6-Series"

IP 192.168.0.178 " "



7



8



9



10

NO.	本地日期	本地时间	用户	类型	项名	值
1	2025/03/12	08:51:45		状态反馈	通讯	ON
2	2025/03/12	08:51:45		状态反馈	Ready	OFF
3	2025/03/12	08:51:45		状态反馈	激光	OFF
4	2025/03/12	08:51:45		状态反馈	主电源	OFF
5	2025/03/12	08:51:45		状态反馈	Start	OFF
6	2025/03/12	08:51:45		致命报警	基站1	
7	2025/03/12	08:51:45		状态反馈	24V	ON
8	2025/03/12	08:51:45		致命报警	急停1	
9	2025/03/12	08:51:45		致命报警	急停3	
10	2025/03/12	08:51:45		致命报警	FPGA通讯异常	
11	2025/03/12	08:51:45		非致命报警	机器时间错误	
12	2025/03/12	08:51:45		致命报警	TF	
13	2025/03/12	08:51:45		致命报警	PS-1: 通讯	
14	2025/03/12	08:51:45		致命报警	PS-2: 通讯	
15	2025/03/12	08:51:45		致命报警	PS-3: 通讯	
16	2025/03/12	08:51:45		致命报警	PS-4: 通讯	
17	2025/03/12	08:51:45		状态反馈	内存使能	OFF

## 7- 故障列表

1			
2			
3			;
4			
5			
6	QBH	QBH	QBH QBH
7			

## 第七章 光纤连接器检查和清洁指南

### 1- 维修须知

1  
2  
3  
4  
5  
6  
7

## 2- 操作步骤

1

2

3

7-1

4

7-2

5

6

QBH

7

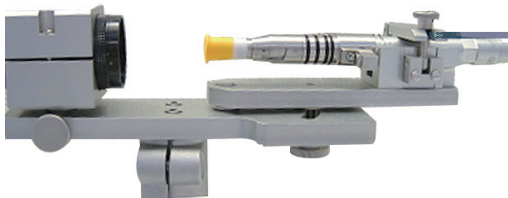
7-3

14

8



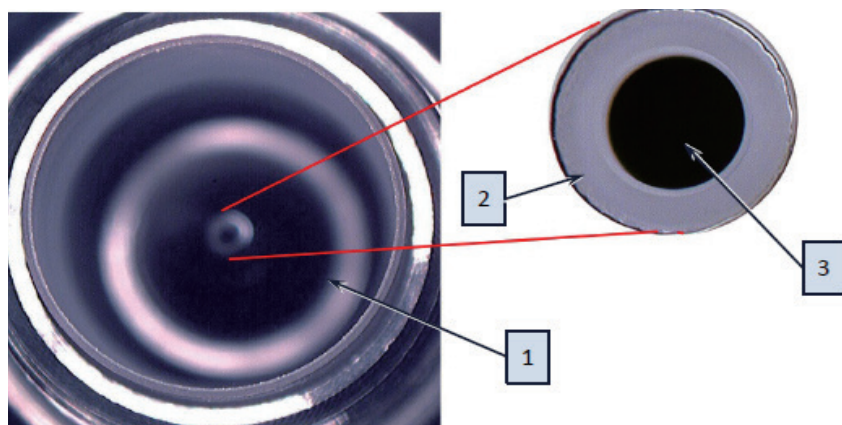
7-1



7-2



7-3

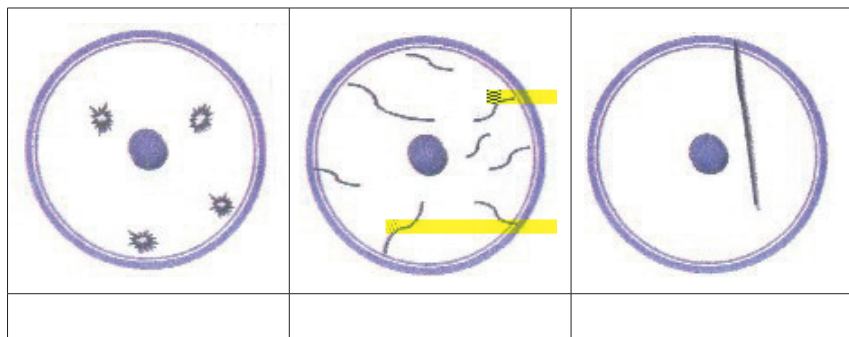


1

2

3

7-4



7-5

## 第八章 服务与维修

### 1- 维修须知

### 2- 服务声明

400-900-9588

## 第九章 保修声明

### 1- 综合条款

### 2- 保修限制

1  
2  
3  
4  
5  
6