

# I FLAMER

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## SF-90

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# USER MANUAL

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- ★ Please read this manual carefully before operating this product.
- ★ Warranty card attached in the manual, please keep it well.

**WARNING** Unauthorized repair are prohibited, it may cause serious incident.

**WARNING** Make sure power supply in consistent with the rated voltage of the equipment, and the socket must well grounded. Unplug and turn off the machine when not use.

**WARNING** Before connect the power cable, communication DMX cable should well connected and ensure the command keep at firing OFF status. And safety lock stay at test mode.

**WARNING** Please note that the safe distance between people and inflammables has been marked on the equipment. The equipment can only be placed horizontally.

**WARNING** After turning on the device, no person allows to stay in the danger area. Ensure all persons that are part of the show be informed about the safety distance, risks and functions of the device.

**WARNING** Always have a CO2 fire extinguisher and an extinguishing blanket in case of needed.

**WARNING** If there is any abnormal working condition, please immediately stop operating, cut off the power, and check the fuel, fuse, cable and power plug. If unable to solve this problem, please contact the manufacturer.

**WARNING** Be sure to use high quality flame fluid, otherwise, it is easily lead to failure or danger. Be careful when refill the flame fluid tank. Please keep flame fluid away from heat source, sparks, fire or other possibility of ignition.

**⚠ WARNING**

The operator responsible for the control of MOVING HEAD FLAMER must always have a clear view of the device, so that he/she can stop the show immediately when there is danger. The main AC power switch should near operator. So that operator can turn off the power of all devices in case of abnormal.

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**⚠ WARNING**

The device shall not be altered and applied to other use purpose.

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## FOREWORD

Thanks for choosing SPARK FABRICA I FLAMER SF-90. Please read following manual carefully and completely before operating this product. Operate according to instructions is very important for safety, and can elongate the service life of the machine. Strictly follow the instruction in the manual when operate I FLAMER SF-90. If you have any doubts, please contact SPARK FABRICA by marketing@sparkfabrica.com. We assume the person who use or come in contact with the device are familiar with how the device should be handled. This includes proper use, maintenance and repair of the machine as defined in this user manual.

## DISCLAIMERS

SPARK FABRICA excludes liability for unsafe situations, accidents and damages resulting from:

1. Ignoring warnings or regulations as shown on I FLAMER or this manual.
2. Use for other applications or circumstances other than those indicated herein.
3. Changes to the I FLAMER, including use of non-original spare parts.
4. Removed safety cover without authorization from SPARK FABRICA.
5. Use this machine by unqualified or untrained personnel. 6. Improper use of machine.

If the information contained in the manual or the product specifications are changed, Spark Fabrica will not inform you further and responsible for any errors or omissions. Our company reserves the right to modify the user manual at any time.

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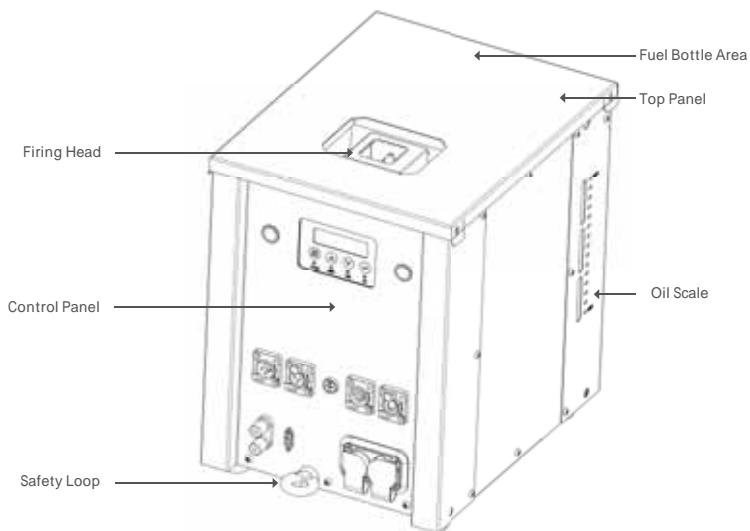
## 1. PRODUCT INTRODUCTION

This product belongs to special effects equipment, only for professional use.

This product belongs to a fire simulator.

This product is widely used in concerts, sports events, theme activities and so on. Stimulate your interest and light up your activity.

### 1.1 PRODUCT OVERVIEW



## 1.2 PRODUCT ACCESSORIES

1.6 Meter Power Plug
3 Meters Power Pair Cable
3 Meters DMX Pair Cable
Built-in Tank
User Manual

### NOTICE

Open the package carefully and check to make sure the goods are in good condition.

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## 1.3 FUEL ALLOWED

Lsopropanol, Lsoparaffin, Bioethanol

### WARNING

Only the consumables provided by Spark Fabrica are allowed to be used. Spark Fabrica shall not be liable for any damage to machines, personnel and property caused by the use of consumables not provided by the company.

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## 1.4 Functional Characteristics

Direct shooting of liquid fuel, the maximum height is 8-10 m.

Compact pumping system ensure compact size of machine.

Strengthened and rustproof metal panel, water-proof design.

5L Built-in fuel tank without external pipeline.

Double electromagnetic valves design for additional safety.

Unique safety lock design which makes test easily and avoids spurious triggering.

Tilt protection, the tilt sensor will be activated when machine slant Over 45°.

Safe and reliable intelligent electronic control system with alarm function, etc.

Standard DMX signal control which can work with any DMX console.

Fitted with fireworks ignition signal port, can be triggered by fireworks ignition.

Support Chinese & English menu switch for operation easier.

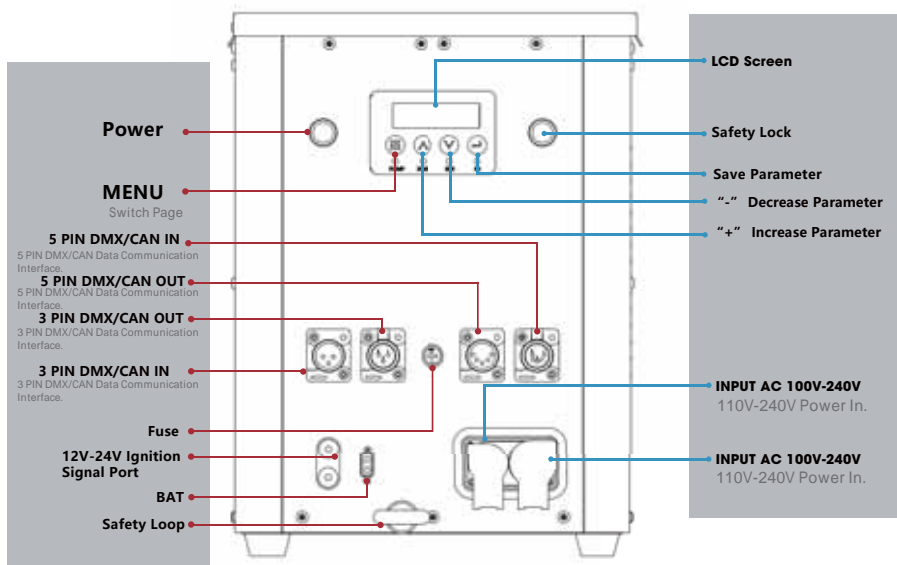
## 2 TECHNICAL PARAMETERS

Identification	Manufacturer	SPARK FABRICA
	Name	I FLAMER
	Model	SF-90
AC Power	Input Voltage & Frequency	100-120V, 50 / 60HZ
		200-240V, 50 / 60HZ
	Work Power	300W
	Power Input Connector	SEETRONIC
	Power Output Connector	SEETRONIC
Interface Type	DMX Signal Interface	5PIN
	Signal Interface	Double DMX Interface
Waterproof	Signal Interface	9V-60V Fireworks Ignition Signal Interface
	IP Rate	IP55(Waterproof Design)
Hopper	Fuel Bottle Capacity	5L
	Removable Hopper	N/A
Control	Control Protocol	DMX-512
	Control Mode	Standard DMX Signal Control
	Effect Angles	vertical
	SMPTE	Touch Screen Console Support
Accessory	Power Plug	SEETRONIC (1.6Meter)
	Remote Controller	Optional
	DMX Cable	√ 3Meter
	Power Cable	√ 3Meter
	Safety Loop	√
	Update Box	Optional
Oil Consumption	Firing Head L (Standard Configuration)	30ml/s
	Firing Head M (Standard Configuration)	60ml/s
Ignition	Ignition Mode	High Voltage Electronic Ignition
Weight	Net Weight (No Fuel)	14kg
	Gross Weight	22kg
Dimensions	Machine Dimensions - L*W*H	330mm*260mm*345mm
	Packing Dimensions - L*W*H	730mm*587mm*725mm
Fuel Oil	Kind	ISOPROPANOL, ISOPAR G,H,L,M



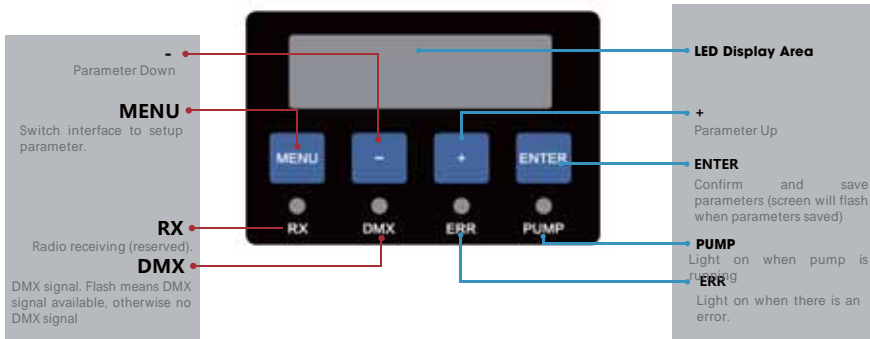
### 3 BACK PANEL GUIDE

#### 3.1 BACK PANEL INTRODUCTION



## 4. INTERFACE

### 4.1 LED DISPLAY AREA



#### NOTICE

screen display will switch to main interface if don't press button for a long time.

### 4.2 WELCOME INTERFACE

**First Line: Product Model  
And Software Version**  
**Second Line: Equipment Series  
Number**

SF-90  
SF-XXXXXX

### 4.3 MAIN INTERFACE

**First Line: DMX Address**  
**Second Line: Pressure100**  
(e.g. 100=10bar); V: 15.6 means internal voltage is 13.6V.

DMX Address: 1  
P:100 V:15.6

## 4.4 ALERT MESSAGE

Alert Message	Explanation
Test Mode	Safety lock located at TEST MODE.
Factory Mode	DMX signal blocked in factory mode.
E0 Invert ON	When turned on, all angles will be mirrored.
E1 Pressure Err	Pressurize for about 13s, pressure value failed to reach 100%, system will report E1. Possible fault: No fuel, pump failure, pipeline problem etc.
E2 P Relief Err	Pipeline can't release pressure leads to pressure relief error. Possible fault: pressure release valve failure, pipeline problem or control system problem etc.
E3 Motor Err	Possible fault: swiveling nozzle stuck, motor failure etc.
E4 ExtIgnition ON	When Ext Ignite is ON, device will pressurize automatically when switch safety lock to USER MODE; decompression when switch to TEST MODE. 9V-60V fireworks ignition signal will trigger related firing sequences.
E5 Voltage Err	Battery voltage > 15V or < 10V for continuous 5s, machine stops running Possible fault: the battery is low.
E6 Tip Err	if the machine slant over 45°, it stops running, system will report E6.

## 4.5 INTERFACE SETUP

Press MENU key to enter the setting interface, press MENU to enter different options until return to the main interface.

Menu	Range	Explanation
Set DMX Address	1~512	DMX address setup.
Set Wireless Switch	ON / OFF	Turn on/off Wireless Function.
Switch Transmit Receive	Mainframe/Slave	Switch mainframe/slave, default is slave.
Set The Wireless Address A	1-255	Wireless ID1,Anti-Interference.
Set The Wireless Address B	2-255	Wireless ID2,Anti-Interference.
Set Up Wireless Channel	1-16	Emit 1-16 packets of data, each packet is 32 bytes.

## 4.6 ADVANCED INTERFACE



Press “MENU” 3s enter advanced interface, press “MENU” to switch interface, press “MENU” 3s can back to main interface.

Items	Contents	Description
Drive Test	OFF / Motor/ Pump / Igniter / Relief Valve / Jet Valve	
	1.Pump	Swiveling and stop at target angle.
	2.Ignite	Swiveling and stop at target angle.
	3.Relief Valve	Relief valve works for 3 times.
	4.Jet Valve 1 5.Jet Valve 1	Safety lock must be user mode, release pressure for 5s, jet valve will work for 3 times.
Ext Ignite	OFF / ON	Trigger through 9-60V fireworks ignite signal.
Set Ext Ignite Time	0.8-8s	Shooting time after triggered by fireworks ignite.
Language	English/Chinese	Language switch.
Mode Select	Normal Mode / Factory Mode	Factory mode is for test in factory only.
Tilt Switch	OFF / ON	Turn on tilt switch(Tilt over 45 degrees will stop shooting.)
Select DMX Channel	2 Channel/ 6 Channel	Can work with Spark Fabrica other flame machines.
Restore default Settings	OFF / ON	Restore device default parameter settings.

## 5 OPERATION GUIDE

### 5.1 FAST OPERATION GUIDE

After receiving the product, remove the package and confirm whether anything is in good condition.- Considering that the use of flame machine has certain danger, please refer to the following operation procedure to operate one by one to ensure safety.

Operation Steps	Contents	Schematic Diagram And Explanation	Remark
1	Installation	The device can only be placed horizontally, if placed on truss, please locked with extra safety ropes.	
2	Locate safety lock at TEST MODE.		Locate safety lock at TEST MODE. TEST MODE: operator can test the rotate of nozzle, but the fuel ejection function disabled, so there is no fuel ejection and flames. USER MODE: the device can generate flames normally.
3	Fueling		Please fueling with high quality fuel according to requirement of this manual.
4	Power and DMX cable connection.		Two kind of power supply optional: 1) 110V/220V main power supply 12V battery power supply
5	Turn on power.		Please confirm safety lock located at TEST MODE before switch on the POWER ON/OFF.
6	Set DMX address.		I FLAMER occupy 6 channels. Detail information please refer to the table of page 20-22.
7	Pressure.		Host controller: Press " HEAT " (lights on) DMX console: Switch DMX value of channel 6 to 50-200.
8	Check device status in TEST MODE.		Reconfirm safety lock located at TEST MODE before test. In this status, the nozzle will rotate, and igniter will activated, but there is no flame. When use DMX console to test the sequence, suggest to set channel 1 at 128, so that nozzle stay at straight up position after each sequence.
9	Pressure Relief.		Host controller: Press " HEAT " key. DMX console: switch DMX value of channel 6 to 0-49/201-255.
10	Switch safety lock to USER MODE.		Before switch to USER MODE, Please strictly follow the safety distance requirement, remove all human, animal or flammable objects in the danger area.
11	Pressuriser.		Host controller: Press " HEAT " key. DMX console: switch DMX value of channel 6 to 50-200.
12	Firing.		Set firing sequence Host controller: Press " FIRING " key DMX console: switch DMX value of channel 3 to 254-255
13	Pressure Relief.		Relief pressure when show finished or MOVING HEAD FLAMER not use for a long period. Host controller: Press " HEAT " key. DMX console: switch DMX value of channel 6 to 0-49/201-255.
14	Switch safety lock to TEST MODE.		Guarantee safety use for next time.
15	Power off.		Power off I FLAMER, tear down power cable and DMX cable, pack up the device when it is cooled down.

## 5.2 DMX CONTROL(6 CHANNEL,DEFAULT))

Channel	Function
Channel 1 (CH1)	N/A
Channel 2 (CH2)	N/A
Channel 3 (CH3)	Ignite Switch: ( 0 ~253) no shooting (254~255) start shooting.
Channel 4 (CH4)	Set Ignite Time: (0 and 255)shooting timelessly, 10s is the longest. (1 ~ 254) 10-2540ms,manual ignition time=DMX value*10ms.
Channel 5 (CH5)	N/A
Channel 6 (CH6)	Mode setting: (0~49)Pressure Relief Mode (Emergency stop sequence) (50~200)Normal Shooting Mode (201~255)Pressure Relief Mode (Emergency stop sequence)

## 5.3 DMX CONTROL(2 CHANNEL)

Channel	Function
Channel 1 (CH1)	Ignite Switch: ( 0 ~15) no shooting (16~255) start shooting.
Channel 2 (CH2)	Mode setting: (0~239)Pressure Relief Mode (Emergency stop sequence) (240~255)Normal Shooting Mode.

Set I Flamer' s address as follows (6channel mode)

I FLAMER Sequence	DMX Channel
1	1
2	7
3	13
4	19
5	25
6	31
7	37
8	43
9	49
10	55
11	61
12	67
13	73
14	79
15	85
16	91
17	97
18	103

**⚠ CAUTION**

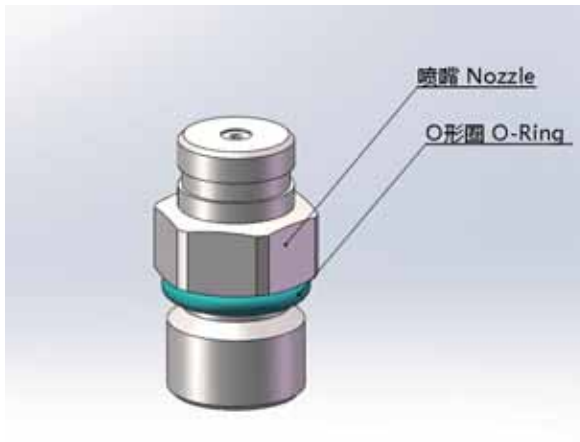
Setting the wrong DMX address may cause machine to lose control.

## 6 MACHINE MAINTENANCE

Some steps are needed in order to clean and maintain the product for maximum usage.

The recommended procedure is as follows:

- \* 1. It is recommended to operate equipment at least once a month to keep its best performance and status.
- \* 2. Maintenance and insurance for firing head: The nozzle should be removed for cleaning up internal impurities. It is recommended to do so once every six months (depending on the use environment and frequency). If it is found that the machine is seriously deformed or the oil shooting line is significantly deformed or thickened, the firing head should be removed immediately for cleaning.





- \* 3. Maintenance of the O-ring: If it is found that the O-ring of the nozzle is damaged or ageing when cleaning the nozzle, the O-ring should be replaced in time (material and size of O-ring: Fluoridated rubber O-ring, the outermost diameter is 14 mm, and the line diameter is 2 mm).
- \* 4. In order to lubricate the pipeline and pump it is highly recommended to add 10-20ml castor oil per 10L canister.
- \* 5. Software can be upgraded with download cable from SPARK FABRICA.

## **7 WARRANTY INSTRUCTIONS**

Sincere thanks for your choosing I FLAMER SF-180, you will receive quality service from us. The product warranty period is one year. If there are any quality problems within 7 days after shipping out from our factory, we can exchange a brand new same model machine for you.

We will offer free of charge maintenance service for machines which with hardware malfunction (except for the instrument damage caused by human factors)in warranty period. Please don't repair machine without factory permission.

Below situations NOT included in warranty service:



**CAUTION**

Damage caused by improper transportation, usage, management, and maintenance, or damage caused by human factors.

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**CAUTION**

Disassemble, modify or repair products without SPARK FABRICA permission.

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**CAUTION**

Damage caused by external reasons (lightning strike, power supply etc);

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**CAUTION**

Damage caused by improper installation or use.

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**CAUTION**

For product damage not included in warranty range, we can provide paid service.

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\*Invoice and warranty card are necessary when applying for maintenance service from SPARK FABRICA.

### WARRANTY CARD

Product Name:		Serial No:	
Purchase Date:			
Tel:			
Address:			
Info.Feedback About The Problem:			
Actual Problem:			
Maintenance Detail:			
Service Engineer:		Service Date:	

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