

DOT FLAMER

SF-DOT90

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 is consistent with the rated voltage of the equipment, and the socket must be well grounded. Unplug and turn off the machine when not in use.

⚠ WARNING

Before connecting the power cable, communication DMX cable should be well connected and ensure the command keeps at firing OFF status. And safety lock stays at test mode.

⚠ WARNING

The structure of the device should not be changed, and the device cannot be used for purposes other than those designed by the manufacturer.

⚠ 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 need.

⚠ 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 refilling 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 DOT 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 be near operator. So that operator can turn off the power of all devices in case of abnormal.

FOREWORD

Thanks for choosing SPARK FABRICA DOT FLAMER. 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 DOT FLAMER. 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. Anoring warnings or regulations as shown on DOT FLAMER or this manual
2. Use for other applications or circumstances other than those indicated herein.
3. Changes to the DOT 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.

1 PRODUCT INTRODUCTION

SF-DOT90 Dot Flamer runs on Isopar liquid fuel with a maximum flame height of around 10 meters. Built with an all-stainless steel housing and IP55 waterproof rating, this unit delivers reliable rain and moisture resistance for long-term use. Ideal for fountain fire shows, concealed flame effects on scenic sculptures and portable outdoor high-altitude installation.

Supplied complete with flame head, control box, hoses, cables and accessories. It adopts DMX remote contactless control to enhance operational safety. The flame head supports mounting at any angle, enabling flexible creative designs for various live performances.

1.1 PRODUCT OVERVIEW



1.2 PRODUCT ACCESSORIES

1.6 Meter Power Plug or 3 Meters Power Pair Cable
3 Meters DMX Pair Cable
Oil Pipe (Customizable length, maximum 70 meters)
5 PIN DMX Singal (Customizable length, maximum 70 meters)
Safety Ring
User Manual

NOTICE

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

1.3 FULE ALLOWED

ISOPAR

1.4 FUNCTIONAL CHARACTERISTICS

- ★ Max flame height: approx. 10m (windless)
- ★ Extra-long hose connects flame head and control box; flexible burner placement
- ★ IP55 waterproof, stainless steel construction with rainproof design, usable in rain
- ★ For fountain fire shows, scenic concealed sculpture flame effects & outdoor high-altitude installation
- ★ Stainless steel enclosure, waterproof & moisture-resistant, built for outdoor activities
- ★ Special safety lock: easy testing, prevents accidental triggering
- ★ Tilt sensor cuts off the burner when tilted over 45° from any angle
- ★ Intelligent ECU with alarm functions, safe and stable
- ★ Standard DMX control, compatible with all DMX consoles

2 TECHNICAL PARAMETERS

Identification	Manufacturer	SPARKFABRICA
	Name	Dot Flamer
	Model	SF-DOT90
AC Power	Input Voltage &Frequency	AC 100-120V,60HZ
		AC 200-240V , 50HZ
	Power	450W
	DMX Signal Interface	3PIN
Waterproof	Waterproof Rated	IP55
Control	Fuel Bottle Capacity	10L
	Control Protocol	DMX-512
	Control Mode	Standard DMX Signal Control
	EffectAngles	Any Angle
Accessory	Power Plug	SEETRONIC(1.6m)
	DMX Cable	√3m
	Power Cable	√3m
	Safety Ring	√
	Safety Loop	Optional
	Safety Loop	Optional
	Update Box	Optional
Weight	Control Box N.G.	15kg
	Flame Head N.G.	8.4kg
Dimensions	Flame Head	229mm*242mm*367mm
	Control Box	476mm*332mm*377mm
	Flight Case	830mm*740mm*720mm

3 BACK PANEL GUIDE



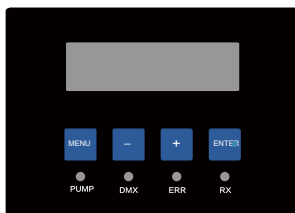
3.1 LED DISPLAY AREA

MENU
Switch interface to setup parameter

—
Parameter Down

+
Parameter Up

ENTER
Confirm and save parameters
(screen will flash when parameters saved)

**RX**

Slave pressure status indicator

DMX

DMX signal. Flash means DMX signal available, otherwise no DMX signal

ERR

Light on when there is an error.

PUMP

Light on when pump is running

Noted: After power-up, the screen shows version information and then switches to the status page (home page). If the display stays on any other interface with no key operation for 15 seconds, it will automatically revert to the home page.

3.2 MAIN INTERFACE

DMX Address
Mode: 6CH



Pressure 0
(e.g. 100=10bar)

V:Voltage

3.3 ALERT MESSAG

Error information will be displayed if system faults occur. See the list below

ALERT MESSAGE	EXPLANATION	SOLUTIONS
E5 Voltage Low	Abnormal Power Supply Voltage	Voltage returns to normal
E6 Tip Err	Tilt Error	Position the unit properly.
E2 P Relief Err	Pressure Relief Error	Pressure relief again
E1 Pressure Err	Pressure Boost Error	Restart the machine

Abnormal Power Supply Voltage: Alarm E5 activates if voltage remains below 10V for 90s. Alarm clears if voltage stays above 10V for 90s.

Tilt Detection: Tilt switch ON: Tilt over 45° triggers Alarm E6 (0.4s filter time). Alarm clears 1s after the unit returns upright.

Pressure Relief Error: Total pressure relief time: 8s. Alarm E2 triggers if pressure ≥ 50% of set value after 3s relief; otherwise the alarm clears.

Pressure Boost Error: Alarm E1 triggers if pressure falls below set value after 8s pressurization. Alarm clears on unit restart.

3.4 ADVANCED INTERFA

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

MENU	CONTENTS	DESCRIPTION
Empyt Test	OFF/ON	Perform empty test prior to first use.
Drive Test	OFF	Test Off
	Pump	The pump pressurizes for 1s
	Ignite	Igniter operates for 1s.
	Relief Valve	Pressure relief valve cycles 3 times open/closed
	Jet Valve 1	Valve cycles open and close 3 times each.
	Jet Valve 2	Valve cycles open and close 3 times each.
Language	English/中文	Chinese or English.
Tilt Switch	OFF/ON	Enable tilt protection(Tilt over 45° triggers Alarm E6)
Restore Default	OFF/ON	Restore unit default parameters.

3.5 INTERFACE SETU

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 DMX Channel	6	Select channel mode

4 DMX CONTROL

Channel1(CH1)	N/A
Channel 2(CH2)	N/A
Channel3(CH3)	Fire
0~253	Fire Off
254~255	Fire On
Channel 4(CH4)	Fire duration
0/255	Continuous Flame (Maximum flame duration: 8s).
1~254	Value 1 = Ignition Time 15ms; Ignition Time = Channel Value x 10ms.
Channel5(CH5)	N/A
Channel6(CH6)	Pressure
0~49	Pressure Relief Mode (Emergency Stop)
50~200	Pressure Boost
201~255	Pressure Relief Mode (Emergency Stop)

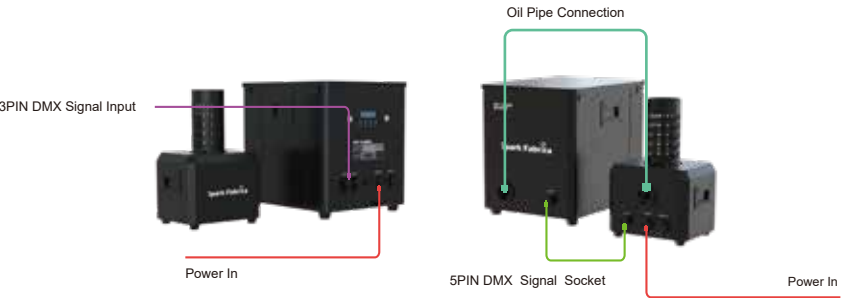
5 EMPYT TEST

Perform empty test before first pressurization and flame operation:

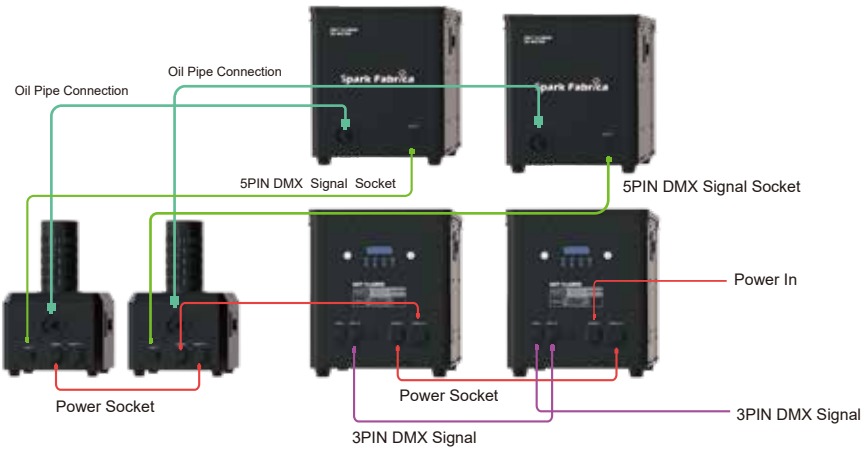
1. Confirm all oil pipes and control cables of main and slave units are properly connected, and the power supply works normally.
2. Activate empty test on the main unit evacuation setting page.
3. Open the user mode.
4. Connect DMX console and verify the correct DMX address on the main unit. Push Channel 6 (50-200 value), then push Channel 3 (254-255 value) to start empty test. It completes once oil sprays from the slave flame nozzle. Single evacuation lasts maximum 8s; reactivate Channel 3 if timed out.
5. After empty test, pull Channel 3 back to 0 to stop oil output, pull Channel 6 back to 0, and disable empty test on the main unit evacuation setting page.

6 INSTALLATION

A: Single Unit Connection Diagram



b: Multiple Units Connection Diagram



6.1 PROCEDURE

PROCEDURE	CONTENT	DESCRIPTION
1	Empty Test	Connect main/slave oil pipes and control cables, power on, set main unit to User Mode and enable empty test.
2	Power On	Before power-on, confirm USER MODE is disabled (Test Mode).
3	Test Mode	Test Mode: Simulated ignition enabled, fuel injection disabled, no flame. Enable USER MODE for normal operation. Strictly observe specified safety distance; evacuate personnel and flammables within range.
4	Dmx Add. Setting	The flame machine uses 6 DMX channels. See Pages 10 for details.
5	Pressure On	Pro Sim Controller CT-05: Press HEAT (LED ON) DMX Console: Channel 6 = 50–200
6	Under Test Mode	Confirm Test Mode (USER MODE disabled) before test. Sparks appear without flame.
7	Pressure Off	Pro Sim Controller CT-05: Press HEAT (LED OFF) DMX Console: Channel 6 = 0-49/201-255
8	Under Test Mode	Clear personnel and flammables within the safety distance as specified. Switch safety lock to USER MODE.
9	Pressure On	Pro Sim Controller CT-05: Press HEAT (LED ON) DMX Console: Channel 6 = 50–200
10	Fire On	Pro Sim Controller CT-05: Press FIRING DMX Console: Channel 3 = 254–255
11	Pressure Off	Perform pressure relief after performance or long idle periods. Pro Sim Controller CT-05: Press HEAT (LED OFF) DMX Console: Channel 6 = 0-49/201-255
12	User Mode Off	Ensure safety for subsequent use.
13	Power Off	Turn off the power switch and disconnect power and signal cables when shutting down. Store the unit after the nozzle cools down.

7 WARRANTY INSTRUCTIONS

Sincere thanks for your choosing DOT FLAMER, 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:

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

NOTICE Disassemble, modify or repair products without SPARK FABRICA permission;

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

NOTICE Damage caused by improper installation or use;

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

* 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:	



CHANGSHA SPARK TECHNOLOGY ELECTRONICS CO., LTD

www.sparkfabrica.com marketing@sparkfabrica.com +86138 7585 1139