Squareled

CONTENTS

1. PRODUCT OVERVIEW

Granule filling port
Output nozzle

Handle

Air inlet

DMX in
DMX out

Air outlet

Control panel
Power switch
Fuse
Enter
Up
Down
Menu
Power out
Power in

1.1 PRODUCT DIMENSIONS

8888888

208mm

246mm

216mm

Category		
Identification	Category	
	Model	SW-05
	Software Version	
AC Power	Input Voltage & Rate	220-240 V, 50 Hz
	Current Limiter Specifications	6.3A, 250 V
	Typical Current	2.7 A
	Current Limiter Type	Fuse
	Nominal Total Power Consumption	600W
	Power Input Connector	Lockable PowerCon
	Power Output Connector (Daisy Chained)	Lockable PowerCon
Heating	Heat Up Time	<5 min
	Re-heat Up Time	0 min
Capacity	Powder Tank Capacity	150 g
Output	Adjustable Density	60-100%
	Adjustment Level/Range	Level 1-4
	Max Output Height	5.0 m
	Powder Consumption (100% Output)	Approx. 0.2-0.3 g/Second
	Maximum Continuous Duration (100% Output)	30s
	Continuous Output	X
Accessory	Power Cord	√
	Remote Controller	√
	DMX Cable	√
Placement	Horizontal	√
Mounting	Angled	>45 °
	Vertical	X
	Hang Upside Down	X
Features	Operation Noise	1 m, 80 dB
Control	On-device Manual Control	LCD Control Board
	Wireless Control	X
	Remote Control	√
	Control Protocol	DMX-512
	DMX Channel Range	2/4
	RFID Card	√
Certification	CE	√
	RoHS	√
Weight	Net Weight	7.5 kg
	Gross Weight	10 kg
Dimensions	Machine Dimensions - Length	208mm
	Machine Dimensions - Width	216mm
	Machine Dimensions - Height	246 mm
	Packing Dimensions - Length	250 mm
	Packing Dimensions - Width	270 mm
	Packing Dimensions - Height	330 mm
Consumable	Consumable	Granule

2 BERORE YOU BEGIN
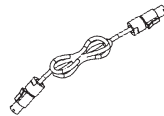## 2.1 WHAT IS INCLUDED
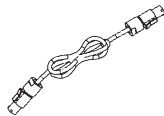
| Spark Jet*1 | Power Cord*1 | User Manual*1 | DMX Cable*1 | Remote Controller* 1 |

2.2 UNPACKING INSTRUCTIONS
• Carefully unpack the product immediately and check the container to make sure all the parts are in the package and are in good condition.
• If the box or the contents (the product and accessories) appear damaged from shipping, or show signs of mishandling, notify the carrier or dealer/seller immediately. In addition, keep the box and contents for inspection.

2.3 DISCLAIMER
• The information and specifications contained in this User Manual are subject to change without notice.
        assumes no responsibility or liability for any errors or omissions, and reserves the right to revise or to create this manual at any time.
• Please read the following Safety Notes carefully before working with the product. The notes include important safety information about installation, usage and maintenance.

2.4 SAFETY NOTES
• Always connect the product to a grounded circuit to avoid the risk of electric shock.
• Do not touch the sparks.
• During heating up and operation, do not touch the housing.
• Ensure nothing drop(s) into the nozzle of Spark Jet unit. Do Not cover output nozzle port.
• The product is very hot during operation and it remains hot for a long time after operation has stopped. Do not touch or put finger in the output nozzle.
• Keep a minimum distance of 10 ft (3 m) from the machine to the nearest human or flammable material. And make sure the falling residue is safe from flammable material.
• Make sure that children, unauthorized people and animals do not obtain access to the machine .This is a special effect that produces sparks will injure the eyes if they are subjected to the sparks.
• The noise level generated from the Spark Jet unit is estimated at 80dB depending on the point nearest to the machine(s) during operational discharge mode.
• Wear eye protection to avoid eye injury while filling granules and testing Spark Jet machine(s).
• The proper firefighting extinguishers are recommended as follows:
Any type of sand or substance that can suffocate the active metals.Class "D" Fire Extinguishers for Metal Substance Fires. Do not use hi pressure,water or CO_2 as this will aggravate the situation.

2.5 WORKING CONDITION REQUIRED

• For safety reasons, we do not recommend mounting the product in any capacity. Operate the product while it is on the ground only.

• The product is not waterproof ! To prevent risk of fire or shock, do not expose the product to rain or moisture. Optional waterproof case is available for operating in rain.

• CAUTION: When transferring product from extreme temperature environments, (e.g. cold truck to warm humid ballroom) condensation may form on the internal electronics of the product. To avoid causing a failure, allow product to fully acclimate to the surrounding environment before connecting it to power.

• Do not mount the product on a flammable surface (linoleum, carpet, wood, paper, carton, plastic, etc).

• Do not use in a confined space. Always install the product in a location with adequate ventilation, at least 20 in (50 cm) from adjacent surfaces.

2.6 POWER AND WIRING

• Always make sure that the voltage of the outlet to which you are connecting the product is within the range stated on the back panel of the Spark Jet.

• Make sure the power cord is not crimped or damaged.

• Never connect this product to a dimmer pack or rheostat.

• Never disconnect the product from power cord by pulling or tugging on the cord.

• To eliminate unnecessary wear and improve its lifespan, during periods of non-use completely disconnect the product by unplugging it.

2.7 OPERATION GUIDELINE

• Do not operate this product if you see damage to the housing or cables. Have the damaged parts replaced by an authorized technician at once.

• Make sure there are no flammable materials close to this product while it is operating.

• Do not cover the output nozzle during operation.

• Do not use the product as a space heater.

• Never carry the product by the power cord or any moving part. Always use the handles.

• Empty the storage bin before transporting the product.

• The maximum ambient temperature (Ta) is 122 °F (50 °C). Do not operate the product at higher temperatures.

• Always disconnect the product from the power source before dumping the granule.

• This product contains no user-serviceable parts. Any reference to servicing in this User Manual will only apply to properly trained, certified technicians. Do not open the housing or attempt any repairs which can lead to damage or malfunction.

• In the event of a serious operating problem, stop using the product immediately.

3 SETUP

3.1 AC POWER

• The machine has a fixed voltage power supply and can work with an input voltage of AC 220 V-240 V, 50Hz, depending on the specific model.

• To determine the product's power requirements (circuit breaker, power outlet and wiring), use the current value listed on the label affixed to the product's back panel, or refer to the product's specifications chart. The listed current rating indicates the product's average current draw under normal conditions.

• Always connect the product to a protected circuit (circuit breaker or fuse). Make sure the product has an appropriate electrical ground to avoid the risk of electrocution or fire.

• Never connect the product to a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel serves only as a 0 to 100% switch.

3.2 DMX LINKING

• You can link the   to a DMX controller by using a 3-pin DMX connection. If using other DMX- compatible products with this product, you can control each individually with a single DMX controller. Instructions for connecting and configuring this product for DMX operation are in the User Manual.
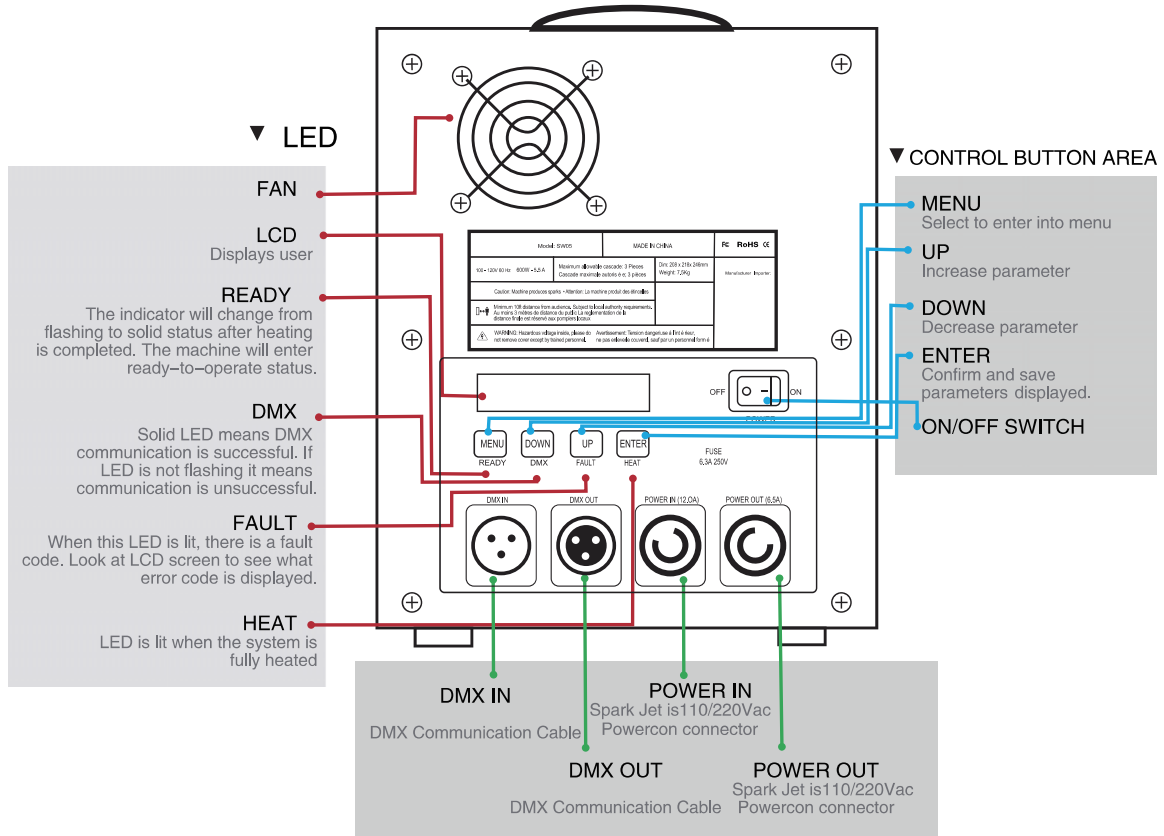
4 BEFORE OPERATION

4.1 PREPARING FOR OPERATION

• Before mounting the product, read and follow the safety recommendations indicated in the Safety Notes.

• For safely reasons, we do not recommend mounting the product in any capacity. Operate the product while it is on the ground only, and make sure there is adequate room for ventilation, configuration and maintenance.

• After checking that all the parts are intact and complete, position the machine on flat.

• Fill the consumable into granule filling port when power off.

• Always connect the product to a grounded circuit. Before power on, make sure it is connected with the rated voltage.

• Turn on the machine, it will immediately start heating up.

CONNECTION	WIRE (U.S.)	WIRE (EUROPE)
AC LIVE	BLACK	BROWN
AC NEUTRAL	WHITE	BLUE
AC GROUND	GREEN/YELLOW	GREEN/YELLOW

4.2 OPERATION PANEL

▼ INTERFACE PLUGGING AREA

▼ LED

FAN

LCD
Displays user

READY
The indicator will change from flashing to solid status after heating is completed. The machine will enter ready–to–operate status.

DMX
Solid LED means DMX communication is successful. If LED is not flashing it means communication is unsuccessful.

FAULT
When this LED is lit, there is a fault code. Look at LCD screen to see what error code is displayed.

HEAT
LED is lit when the system is fully heated

▼ CONTROL BUTTON AREA

MENU
Select to enter into menu

UP
Increase parameter

DOWN
Decrease parameter

ENTER
Confirm and save parameters displayed.

ON/OFF SWITCH

Model: SW05   MADE IN CHINA   FC RoHS CE

100 - 120V 60 Hz 600W – 5,8 A   Maximum allowable cascade: 3 Pieces / Cascade maximale autorisée: 3 pièces   Dim: 208 x 218x 248mm / Weight: 7,2Kg   Manufacturer/ Importer:

Caution: Machine produces sparks • Attention: La machine produit des étincelles

Minimum 10ft distance from audience, Subject to local authority requirements. / Au moins 3 mètres de distance du public La réglementation de la distance finale est réservé aux pompiers locaux

⚠ WARNING: Hazardous voltage inside, please do not remove cover except by trained personnel. / Avertissement: Tension dangereuse à l'intérieur, ne pas enlevé le couvercle, sauf par un personnel formé.

OFF O — ON

MENU DOWN UP ENTER   FUSE 6.3A 250V
READY DMX FAULT HEAT

DMX IN   DMX OUT   POWER IN (12.0A)   POWER OUT (6.5A)

DMX IN

DMX Communication Cable

POWER IN
Spark Jet is110/220Vac Powercon connector

DMX OUT

DMX Communication Cable

POWER OUT
Spark Jet is110/220Vac Powercon connector

4.3 CONTROL PANEL

• To access the control panel functions, use the four buttons located underneath the LCD display.

Button	Function
MENU	Choose different setting page
UP	Increase parameter
DOWN	Decrease parameter
ENTER	Confirm and save parameters displayed.

5 SETTINGS & OPERATION

5.1 SETTING

•   Refer to the Setting Instructions to understand the menu options. The menu map shows the main level and a variable number of programming levels for each option.

•   To go to the desired main level, press <MENU> repeatedly until the option shows on the display. This will take you to a different setting page.

•   To select an option or value within the current programming level, press ＜A＞ until the option shows on the display. If there is another press <UP> or <DOWN> button until it reaches your desired setting .

•   Press <MENU> repeatedly to switch menu pages.

•   Press <ENTER> to save the changes.

STATUS PAGE	Present Temperature Left Time Present DMX Address	PV: 550°C DMX Time 0 Min 1
REMOTE CONTROLLER CODING		ControlPair Code 315M
TEMPERATURE SETTING	Present Temperature (500-630)	Set Tmeperature SV: 540°C
DMX SETTING	Random Address From 1-512	Set DMXAddr 1
DMX MODE SETTING	2 Channel 4 Channel	Set DMX Channel 2
BACKLIGHT SETTING	Back Light On/Off	LCD BackLight ON
HEATING SETTING	Auto Heating On/Off	Auto Heating ON
DENSITY SETTING	Density Setting 60%~100%	Set Density 60
SERIAL NUMBER		CN:86000196
MODEL AND SOFTWARE VERSION		SW05-B Ver:2.12

5.2 DMX MAP & OPERATION

- Connect the product to a suitable power outlet.
- Turn on the machine.
- Connect a DMX cable from the DMX output of the DMX controller to the DMX input socket on the product.
- Set the Spark Jet starting address in the 001 - 512 DMX range. This enables control of up to 256 products in the 2-channel mode.

2 DMX Channel, when the system occupies four channels.

First Channel	Function
0–40	Stop
41–90	Fountain Height 1
91–140	Fountain Height 2
141–190	Fountain Height 3
191–255	Fountain Height 4
Second Channel	Function
0–200	Pre–heat Off
11–39	Emergency Stop (Pre–Heat Off)
56–200	Clear Material
240–255	Pre–heat On

4 DMX Channel, when the system occupies two channels.

First Channel	Function
0–40	Stop
41–90	Fountain Height 1
91–140	Fountain Height 2
141–190	Fountain Height 3
191–255	Fountain Height 4
Second Channel	Function
0–10	Pre–heat Off
240–255	Pre–heat On
Third Channel	Function
42–255	Clear Material
Fourth Channel	Function
40–255	Emergency Stop On

6 GRANULE

• Granule is the consumable specially designed for Spark Jet, to create light golden color cold firework for stage effect.

6.1 FILL IN GRANULE

• Tear open the vacuum resealable foil pouch, and fill in the Granule through the granule filling port port on the top of the fixture depending on the dosage needed.
• Open the hopper lid.
• Fill the consumable into the feed port, NOT into the output nozzle.
• Close the lid securely after filling.
• The capacity of storage bin is 150g.
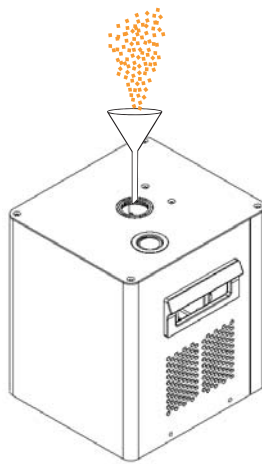
6.2 PRECAUTION FOR USE

• Make sure to fill the Granule through the feed port on the top of the fixture when power supply is off.
• Any type pf sand or substance that can suffocate the active metals.Class "D" Fire Extinguishers for Metal Substance Fires. Do not use hi pressure,water or CO2 as this will aggravate the situation.

7   TECHNICAL INFORMATION

7.1 MAINTENANCE

requires minimal upkeep in order to maintain optimum performance. However, some steps are needed in order to clean and maintain the product for maximum usage. The recommended procedure is as follows:
• After a period of using, check if there is any consumable tuberculation inside the nozzle. Do necessary cleaning up if there has some, or it may affect spark performance, even damage the machine.
• Test-run   on a monthly basis to achieve the best performance.

7.2 STORAGE

7.2.1 MACHINE STORAGE
• Before storing the machine, empty the storage bin, clean it as described in the "Maintenance" section,and keep the machine in dry cool place.
• Empty the hopper.
• Run the machine to generate spark till out of   GRANULE, or run Consumable Cleaning Up procedure (safety channel, channel 2) to completely clear remaining Spark Fabrica Granule inside the heating chamber.
• Power off   , and allow unit to cool down. Empty the hopper through feed port by inverting the machine.
• Refer to "DMX MAP" chapter to for more information.

7.2.2 GRANULE STORAGE & RECYCLING
•   Granule should be stored in a cool, dry place, vacuum packed in resealable foil bags, and protected from moisture, heat, hot surface, open fire and other ignition sources.

8 GENERAL TROUBLESHOOTING
• When error happens, device will stop working and heating system will shut off automatically. LCD shows corresponding error code.

8.1 ERROR CODE DESCRIPTION

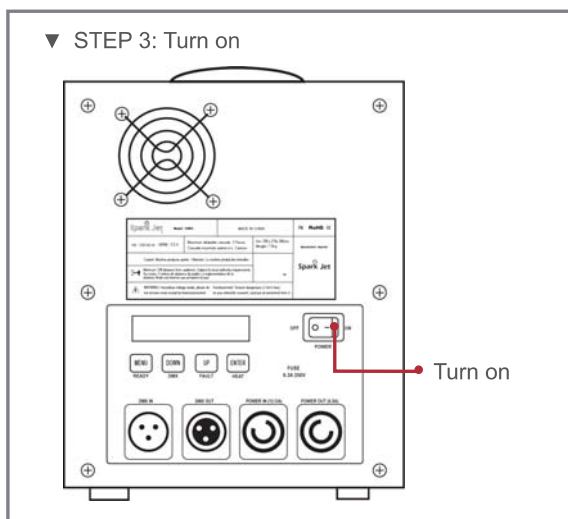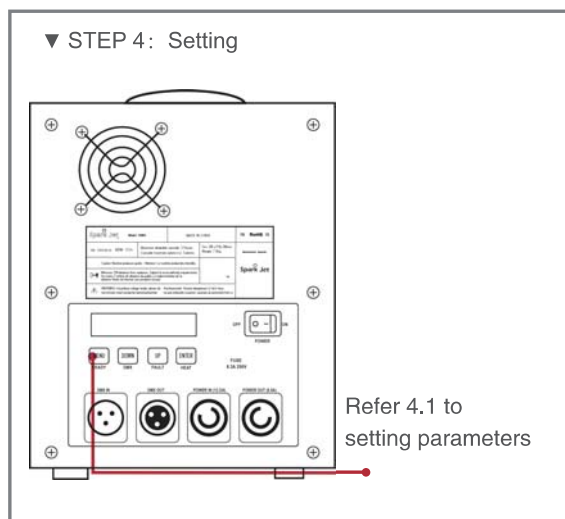| Error Code	Description.
E0 System IC	Systematic error.
E1 Motor Protect	Excessive shooting time, enter into protection mode for 20seconds.
E2 Temp. Sensor	Temperature sensor is not detected or break or malfunction.
E3 P Temp. Over	Over-temperature on the case.
E4 Time Remain	Running out of time remain.
E5 K Temp. Over	The equipment stops due to over-temperature on the heating coil.
E6 Heat Fail	May be issues of the heating system. Power off when this error occurs.
E7 Tip Over	The equipment stops due to tip over.

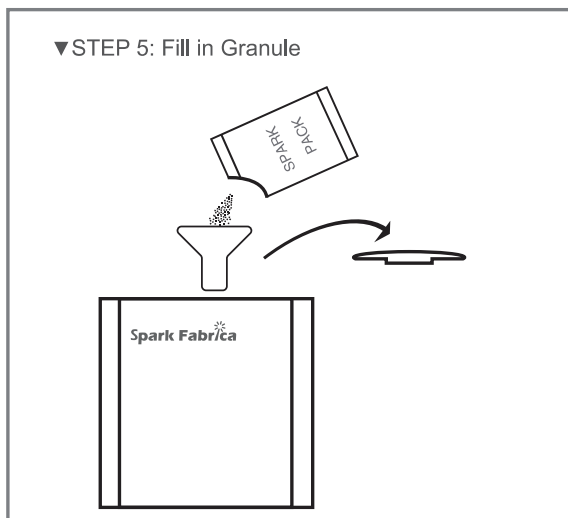▼   STEP 1: Plug power in
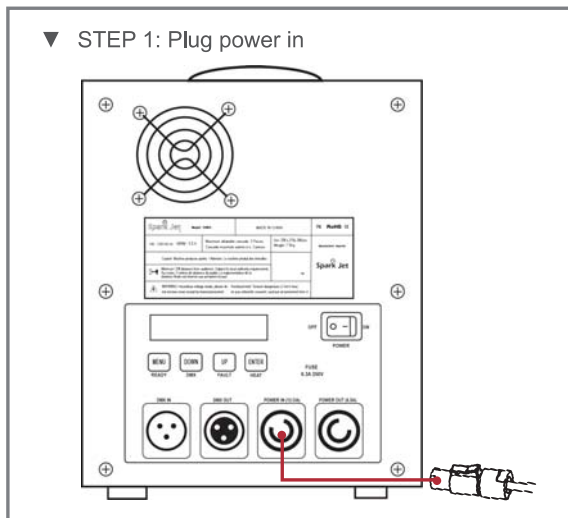
▼   STEP 2：Connect DMX and machine

▼   STEP 3: Turn on
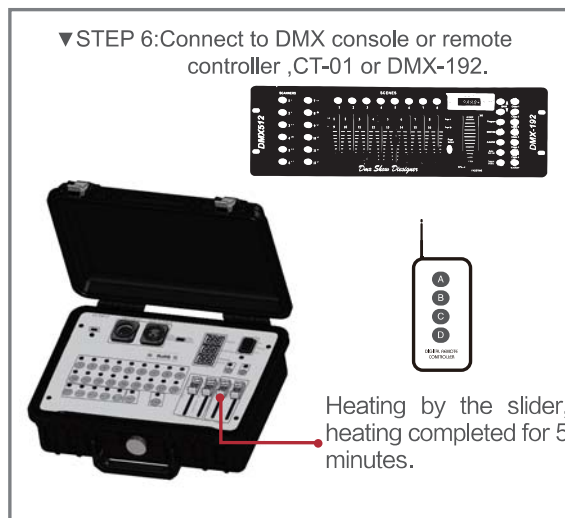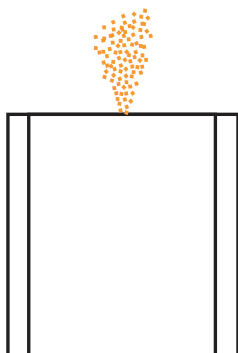

Turn on

▼   STEP 4：Setting

Refer 4.1 to
setting parameters

▼STEP 5: Fill in Granule

SPARK PACK

Spark Fabrica
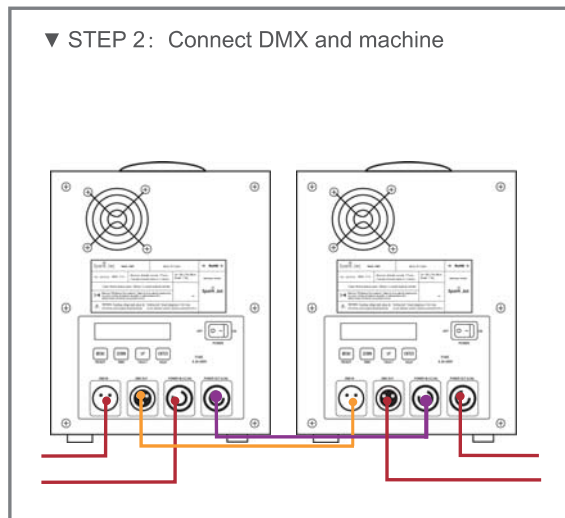
▼STEP 6:Connect to DMX console or remote
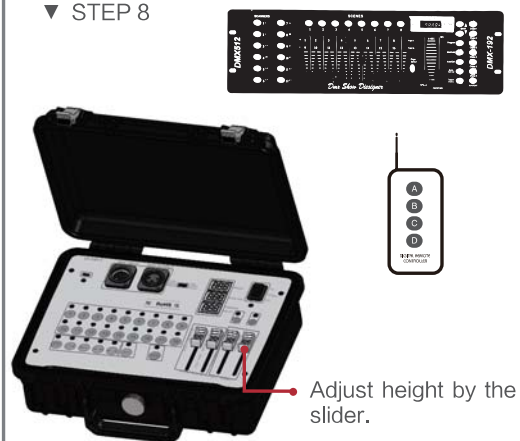controller ,CT-01 or DMX-192.

Heating by the slider,
heating completed for 5
minutes.

▼ STEP 7

After heating completed,start firing.
Open the first channel or press a button to start firing.

▼ STEP 8

Adjust height by the slider.

▼ STEP 9: Perform clear material function after show.
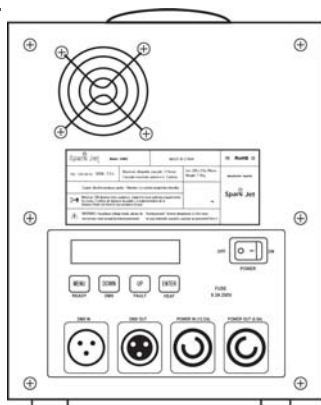
▼ STEP 10: Power off
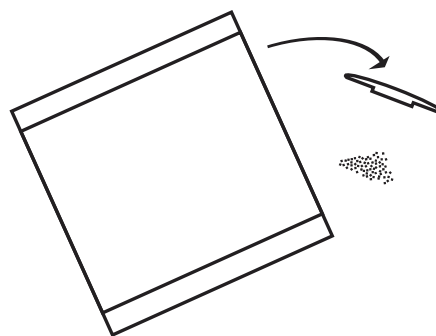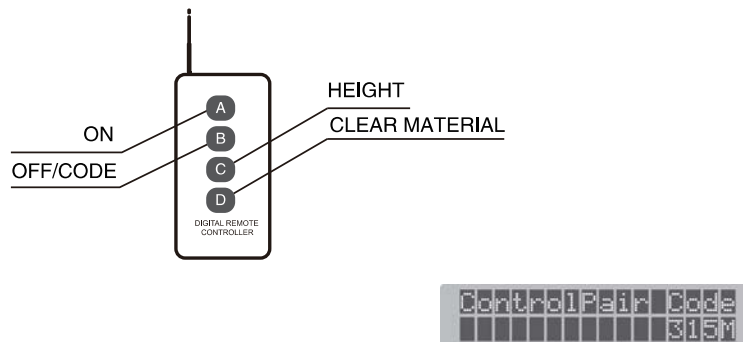
Power off
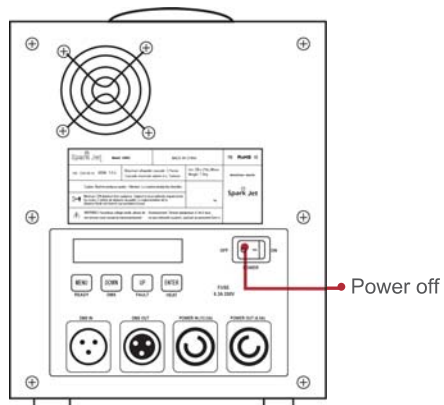
▼ STEP 11: Cool down the machine for 15 minutes.

▼STEP 12: Disconnect the units,pour out the left granules,clean the casing.

10. HOW TO USE REMOTE CONTROLLER

Battery Type: 23VA 12V

Code between machine and controller before USE.

- Step 1: Plug power in with the machine, and turn it on.Pull out the antenna of remote controller.

- Step 2: Hold <UP> key until the screen shows: Control Pair Code 315M.

- Step 3: Meanwhile press button <B> on remote controller, until the screen shows "Code Success", it means the coding successful.

- Note: One remote controller is recommended to control 4 units at most.

HOW TO OPERATE MACHINE AFTER CODE?

- Step 1: Plug power in with the machine, and turn it on.

- Step 2: Open the hopper lid and fill the consumables.

- Step 3: Machine will heat up automatically if not connected with DMX console. When the "READY" light become solid green,it means the heat up process complete,and the machine is in ready-to-fire status.

- Step 4: Press button <A> to start shoot the machine, the default height is the maximum height.

- Step 5: Press button <B> to stop shooting.

- Step 6: Press button <C> can adjust the height at 4 different options.

- Step 7: After the event, press button <D> to do the Clear Material operation for 5 seconds, press multiple times until there is no more sparks.

- Step 8: Switch the machine, unplug the power, and pour out the left consumables.

- Step 9: Kindly store the left consumables in a safe way, and keep it far away from fire and store it at dry condition.