

# **USER MANUAL**

## **SPARKULAR® WP**

V1.1

2025/06/16



**Showven Technologies Co., Ltd.**



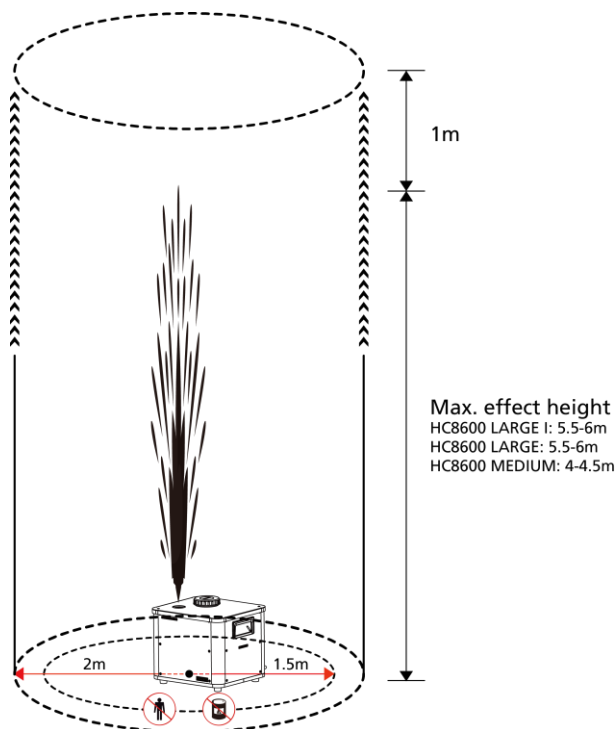
Thanks for choosing SPARKULAR® WP , we wish it will sparks up your show. Please read the following manual carefully before operating this product.

## **Δ Safety Instructions**

- ❖ Unauthorized repair are prohibited, it may cause serious incident.
- ❖ SPARKULAR® WP can be used in rain, but please keep it dry after use and when storing it.
- ❖ Make sure lid of feeding hopper are well covered when use SPARKULAR® WP.
- ❖ Accidentally burning of consumable in hopper can only use sands to extinguish.
- ❖ Consumable should keep away from moisture and stored in a dry sealed environment.
- ❖ Check whether there is consumable aggregate in the output nozzle both before and after each show, if any, please clean it up, or it will affect the firing effect, damage machine, even cause serious incident.
- ❖ There will be some sparks drop to ground, make sure there are no flammable objects such as carpet on the ground within the safety radius of the machine.
- ❖ The SPARKULAR® WP power supply cable maximum allowed cascade of 4pcs (220V version) / 3pcs (110V version), exceed connecting may result in damage or even cause fire.
- ❖ For better heat dissipation, block the air intake and air outlet is prohibited.
- ❖ Cover the output nozzle of SPARKULAR® WP is forbidden, inspect the machine before each show, making sure no objects or material will block the output nozzle.
- ❖ Never touch the nozzle of SPARKULAR® WP danger of getting burnt.
- ❖ Never touch the sparks which shooting out from the nozzle.

## **Safety Distance**

- ❖ Keep audience and flammable material at a minimum distance of 1.5m (when use MEDIUM) or 2m (when use LARGE and LARGE I) from SPARKULAR WP.
- ❖ Make sure sparks shoot out from SPARKULAR® WP can NOT touch any objects. And keep a clearance with minimum 1m from the setting maximum effect height.
- ❖ In windy environment, increase the safety distance according to the wind direction and speed.
- ❖ The safety zone area shifts accordingly when machine installed in tilt position. Please increase the safety distance in the direction which machine tilt.
- ❖ Sparks and consumables from the machine can lead to serious eye injury. Always wear safety goggles when enter the safety zone.



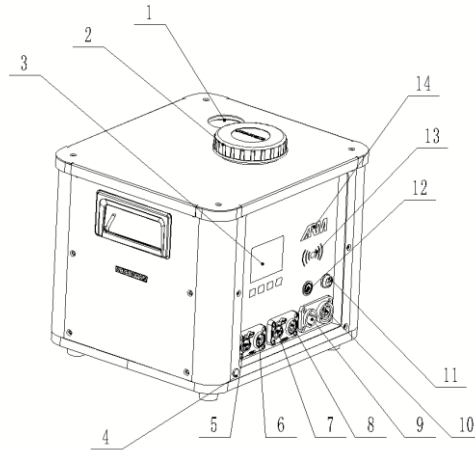
## Δ Description

SPARKULAR® WP is a newly designed SPARKULAR® for outdoor or high moisture environment applications. It is with IPX4 certified waterproof structure and 1200g extra large hopper. SPARKULAR® WP with 6m adjustable fuller sparks effects and with the new weatherproof structure concept design it is much easier for maintenance.

## Δ Technical Specifications

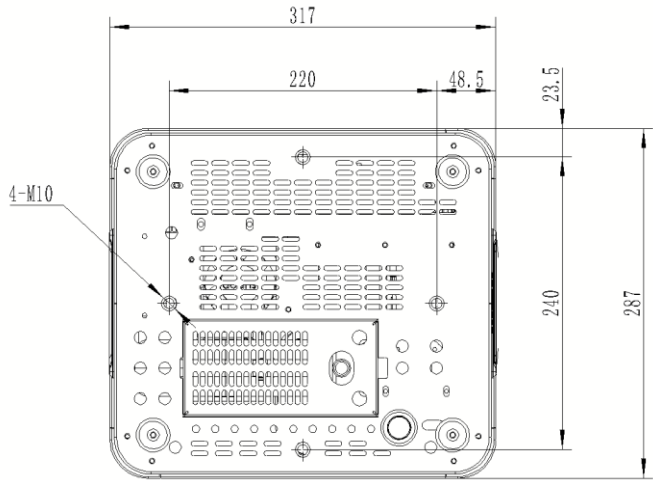
- \\ **MODEL:** BT73 (220V) / BT74 (110V)
- \\ **DIMENSION:** 317×287×295mm
- \\ **WEIGHT:** 14kg
- \\ **VOLTAGE:** AC200-240V / AC100-120V, 50/60Hz
- \\ **WORK POWER:** 700W
- \\ **EFFECT HEIGHT ADJUSTBLE:** YES
- \\ **EFFECT HEIGHT:** 4.0-6m
- \\ **HC8600 CONSUMPTION RATE:** 25g/min
- \\ **HOPPER CAPACITY:** 1200g
- \\ **INTERFACE:** 3-pin and 5-pin XLR, POWER IN/OUT
- \\ **CONTROL:** 2 DMX channels
- \\ **WORK TEMP.:** -20°C~40°C

## Structure of SPARKULAR® WP



1. Output Nozzle
2. Feeding Hopper Lid
3. LCD Screen
4. Rubber plug (for safety ring)
5. 5-PIN DMX OUT
6. 5-PIN DMX IN
7. 3-PIN DMX OUT
8. 3-PIN DMX IN
9. Power IN
10. Power OUT
11. Fuse
12. Power Switch
13. RFID Card Swipe Region
14. ARM Alarming Light

**Diagram of Bottom Panel**



**Δ Operation Panel**

**1. Keypad area:**



**MENU:** Press enter setting interface

**UP:** Parameter up

**DOWN:** Parameter down

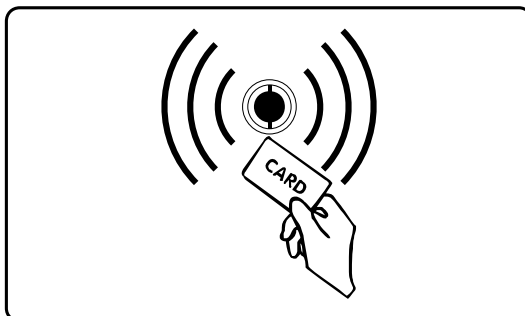
**MONI:** Status monitoring of main part inside machine

## 2. Monitor Interface

From this interface, we can check the PCB TEMP., motors status, DC voltage etc. of machine.

MONITOR	
PCBA Temperature	22
AC Frequency	0
Blower Motor Sensor	00.0A
Shaft Motor Sensor	00.0A
Feeding Motor Sensor	00.0A
Fountain Height	0
DC Voltage	24.1v
BACK	UP
DOWN	MONI

## 3. RFID area:



RFID card come with consumable HC8600 bags, swiping card to identify parameters and types of granules. The RFID card is disposable, one card can only use one time. Each card can increase single machine 20min working time, the maximum recharge time for SPARKULAR® WP is 120min. SPARKULAR® WP any compatible with V2.0 RFID card.

## 4. ARM alarming light



**OFF:** DMX connected or wireless ON.

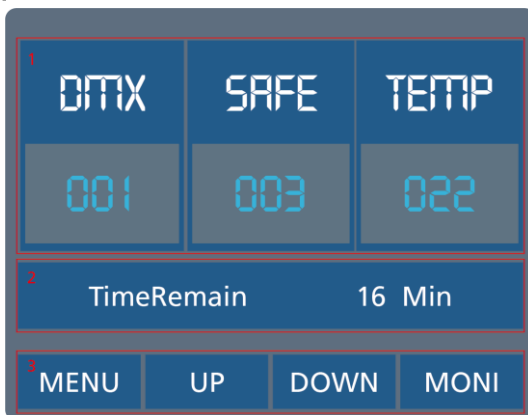
**BLINK:** DMX armed, ready for firing

**ON:** No DMX connection.

NOTE: you can turn off the ARM light in ADVANCED menu by switch the ARM State to OFF status.

# Display Interface

## 1. Main Interface:



### 1) Data Bar

**DMX:** DMX address, background color turns from black to red means DMX connected.

**SAFE:** appears when DMX Channel Mode is 3CH-P, when safety channel DMX value between 50-200 the background color turns from black to red.

**TEMP:** Temp. of heating chamber, red background means machine temp. reached set temp. and ready to firing. BLACK ground and display 995 means temp. sensor disconnect.

### 2) Message Bar

Shows device status, remaining time and error information if any

### 3) Touch Keypad Bar

**MENU / BACK:** MENU or BACK

**UP / LEFT:** Parameters up, items switch up or left

**DOWN / RIGHT:** Parameters down, items switch down or right

**MONI / EDIT / SAVE:** Data monitoring, edit or save

## 2. Error information

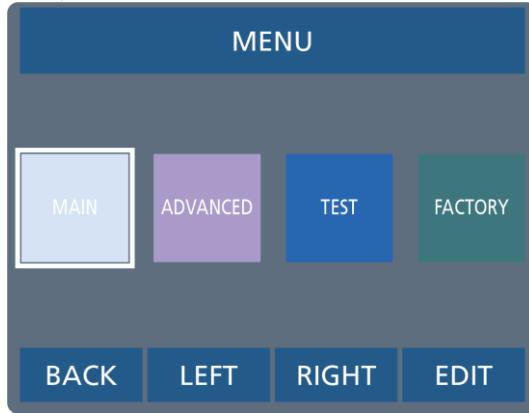
Error information	Why it appears	How to remove
E0 System IC 0	Power supply frequency abnormal Mainboard malfunction	Check the power supply frequency Replace a new mainboard
E0 System IC 3	Continuous use of fake card	Stop use fake consumable, contact SHOWVEN or your direct supplier
E1 Blower Motor Unconnect	1. Blower wire terminal connection loose 2. Blower motor is damaged 3. Mainboard malfunction	1. Set "motor protect" to OFF in advanced interface and restart the machine, if blower motor can work normally then mainboard is damage, please replace a new mainboard. 2. Check the blower terminal connector 3. Change a new blower motor
E1 Feeding Motor Stall	1. Feeding hopper is blocked 2. Feeding motor is damaged	1. Set "motor protect" to OFF in advanced interface and restart the



	3. Mainboard malfunction	machine, if blower motor can work normally then mainboard is damage, please replace a new mainboard. 2. Check whether the feeding can be turned manually 3. Check whether feeding motor is working, if not please replace a new feeding motor
E1 Shaft Motor Stall	1. Shaft is blocked 2. Shaft motor is damaged 3. Mainboard malfunction	1. Set "motor protect" to OFF in advanced interface and restart the machine, if blower motor can work normally then mainboard is damage, please replace a new mainboard. 2. Check whether the shaft can be turned manually 3. Check whether shaft motor is working, if not please replace a new shaft motor
E2 Temp. Sensor	1. Temp. sensor wire terminal connection loose 2. Temp. sensor damage 3. Mainboard malfunction	1. Check the Temp. sensor wire connection 2. Replace a new Temp. sensor 3. Replace a new mainboard
E3 P Temp. Over	Machine chassis over temperature, maybe because: 1. Cooling fan wire terminal connection loose 2. Cooling fan is damaged 3. Mainboard malfunction	Stop firing and heating up, let the machine cooling down itself. 1. Check the cooling fan wire connection 2. Replace a new cooling fan 3. Replace a new mainboard
E4 Time Remain	Firing time is insufficient (less than 10min), please swipe RFID card	Swipe a new V2.0 RFID card, it is in SHOWVEN original consumable package box
E5 K Temp. Over	1. Firing duration is too long 2. Mainboard malfunction	1. Stop firing and let the machine cool down itself 2. Replace a new mainboard
E6 Heat Fail	1. Heating PCB or heating coil wire terminal loose 2. Heating PCB is damaged 3. Heating coil is damaged 4. Mainboard malfunction	1. Check heating PCB and Heating coil wire terminal connection 2. Replace a new heating PCB 3. Replace a new heating coil 4. Replace a new mainboard
E7 Tip Over	1. Tip over more than 45° 2. Mainboard malfunction	1. Place the machine on a horizontal position or set the Tip over to OFF status if necessary 2. Replace a new mainboard

### 3. Menu

Press "MENU" enter setup menu.



**MAIN:** main menu

**ADVANCED:** advanced menu

**TEST:** test menu

**FACTORY:** factory menu (for manufacturer use only).

**BACK:** back to main interface

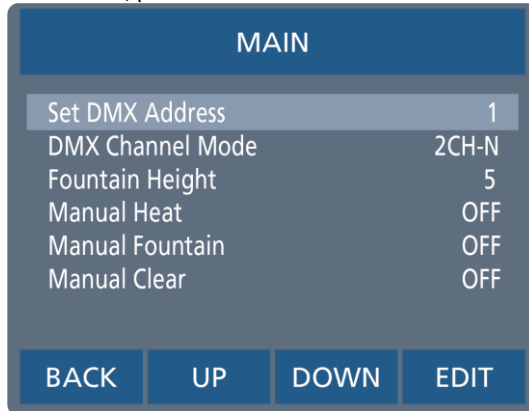
**LEFT:** switch to left option

**RIGHT:** switch to right option

**EDIT:** edit the selected item

### 4. Main Menu

Choose MAIN at menu interface, press EDIT enter main menu interface.



Options	Range	Default	Explanation
Set DMX Address	1-511	1	Set DMX Address
Set Safety Address	1-512	3	Safety address under 3CH-P channel mode
DMX Channel Mode	2CH-N/3CH-P	2CH-N	2CH-N: 2 channel mode 3CH-P: 3 channel safety channel mode
Fountain Height	1-10	5	Manual firing height adjust, for test purpose.
Manual Heat	ON/OFF	OFF	Auto heating up ON/OFF
Manual Fountain	ON/OFF	OFF	Manual firing ON/OFF.
Manual Clear	ON/OFF	OFF	Manual clear material ON/OFF.

## 5. Advanced Menu

Options	Range	Default	Explanation
Set Temperature	520-620	580	Heating chamber temperature setting
Wireless Control	ON / OFF	OFF	Wireless function
Density	50-100	100	Feeding amount setting
Motor Protect	ON/OFF	ON	Motor protect function
Tip Over	ON/OFF	ON	Tilt function switch, when machine slant over 45 degree it will stop working.
Standby Switch	ON/OFF	OFF	When ON, the machine can firing only when heating up was finished
ARM State	ON/OFF	ON	ARM indicator light setting
Mode Selection	Factory Mode User Mode	User Mode	Factory mode is for manufacturer use only. When in Factory mode machine can't controlled by DMX console
LCD Backlight	ON/OFF	ON	LCD Backlight ON/OFF
Auto Clear Delay	0.1-0.9s	0.1s	Automatic clear material time setting
Key Sound	ON/OFF	ON	Key pad sound ON/OFF switch
Key Lock	ON/OFF	OFF	Keypad lock if no operation in 30s, restart machine to enable
Language	中文/English	English	ARM indicator light setting
Default Parameter	ON/OFF	OFF	Parameters reset to default setting

\*For better performance of SPARKULAR® WP, please don't change the default value without permission from SHOWVEN®.

## 6. Test Interface

TEST	
Blower Test	00.0
Shaft Test	00.3
Feeding Test	00.0
Mot Test	

BACK	UP	DOWN	EDIT
------	----	------	------

Blower Test: blower output test, testing time is 2s.

Shaft Test: Shaft motor test, testing time is 2s.

Feeding Test: Feeding motor test, testing time is 2s.

It shows Running if testing is going, shows Finished after testing finish.

## 7. DMX Channel Mode

SPARKULAR® WP have two channel mode optional.

### 2CH-N mode:

SPARKULAR® WP occupies 2 operational channels. First channel is for effect height, second channel for effect trigger and clear material etc.

Channel	Function	Value
CH1	Firing	0~15: Firing OFF 16-39: Firing ON at height level 1 40-63: Firing ON at height level 2 64-87: Firing ON at height level 3 88-111: Firing ON at height level 4 112-135: Firing ON at height level 5 136-159: Firing ON at height level 6 160-183: Firing ON at height level 7 184-207: Firing ON at height level 8 208-231: Firing ON at height level 9 232-255: Firing ON at height level 10
CH2	Heating / Clear Material / Emergency Stop	0-10: Heating OFF 20-40: Emergency Stop 60-80: Clear Material 240-255: Heating Up

### 3CH-P mode:

SPARKULAR® WP occupies 2 operational channels and a separate safety channel (this channel is independent from operational channel, can be shared with other machine).

Channel	Function	Value
CH1	Firing	0~15: Firing OFF 16~39: Firing ON at height level 1 40~63: Firing ON at height level 2 64~87: Firing ON at height level 3 88~111: Firing ON at height level 4 112~135: Firing ON at height level 5 136~159: Firing ON at height level 6 160~183: Firing ON at height level 7 184~207: Firing ON at height level 8 208~231: Firing ON at height level 9 232~255: Firing ON at height level 10
CH2	Heating / Clear Material / Emergency Stop	0~10: Heating OFF 20~40: Emergency Stop 60~80: Clear Material 240~255: Heating Up
CH-Safe	Firing Enable / Disable	0~49: Firing Disable 50~200: Firing Enable 201~255: Firing Disable

## 8. Wireless Control

SPARKULAR® WP can be firing wirelessly by FXmote. When use FXmote for remote control please follow below steps. Disconnect DMX cable connection before below operation, otherwise wireless function is disabled.

**Operation on SPARKULAR® WP:** please disconnect DMX cable connection, set machine to Wireless Control to ON status in advanced menu, and press "SAVE" to save the change.

ADVANCED

Set Temperature

580

Wireless Control

Y

ON

Density

100

Motor Protect

OFF

Tip Over

ON

Standby Switch

OFF

ARM State

ON

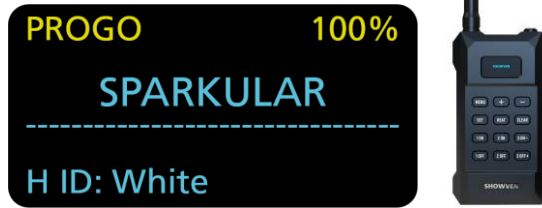
BACK

UP

DOWN

EDIT

**Operation on FXmote:** Press "MENU" button on FXmote, switch to "DEVICE" option, go through DEVICE items with "+" and "-" to find "SPARKULAR" (please refer to FXmote manual, for old version of of FXmote, please choose "SPARKULAR SPIN"). Match machine with FXmote by Press "SET" on FXmote when machine at Wireless Control interface.

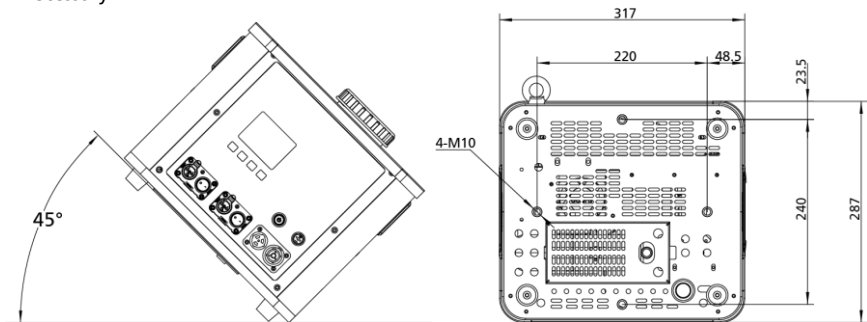


FXmote is not standard configuration, if you need to order please contact SHOWVEN sales.

## Δ Operation Guide

### 1. Install SPARKULAR® WP

- Horizontal installation is preferred for SPARKULAR® WP. If need to installed SPARKULAR® WP in angles, please turn the Tip over to OFF status first, maximum firing angle is 45 ° and can only be angled to the side as below picture.
- There are 4 \* M10 hole reserved for truss installation. 4 feet can be disassembled when necessary.



- Make sure the machine is securely installed to avoid tipping.
- The safety zone area shifts accordingly when machine installed in tilt position. Please increase the safety distance in the direction which machine tilt.
- Check carefully the output nozzle of each machine, make sure the output nozzle is in good shape and there is no powder aggregate.
- The machine is IPX4 waterproof and cannot be immersed in water.

## **2. Fill SPARKULAR® WP**

- a) Open powder bags and fill the feeding hopper. Hopper capacity of SPARKULAR® WP is 1200g.
- b) Choose correct consumable according to the application scenario.
- c) Please be noted that there may sparks or remains fall to the ground. Make sure no flammable material on ground in the safety zone.
- d) Maximum effect height: LARGE/LARGE I is about 6m
- e) Make sure the lid of hopper is locked tight after filling.

## **3. Connect Power / DMX cable**

- a) Connect a power cable to the POWER IN socket of SPARKULAR® WP. Connect the other end of power cable to the power source. Make sure power supply is consistent with the rated voltage of the equipment, and the socket must well grounded.
- b) If connect machine in sequence, please connect a power link cable to the POWER OUT of previous machine, connect the other end of the power link cable to POWER IN of the next machine.
- c) The SPARKULAR® WP power supply cable maximum allowed cascade is 4 units (220V version) / 3 units (110v version). Do not connect exceed units to a single electrical circuit.
- d) Power ON all SPARKULAR® WP.
- e) Assign DMX address for each unit of SPARKULAR® WP. If use SHOWVEN host controller or FXcommander to control the machine please allocate a unique DMX address for each unit of machine.

If use FXmote to control SPARKULAR® WP wirelessly, please set machine to wireless ON status and match machine with FXmote.

For DMX cable control please execute below operations (f to h).

- f) Connect a DMX cable to the DMX IN socket of first unit of SPARKULAR® WP, connect the male connector end of DMX cable to your DMX controller (FXcommander, HOST CONTROLLER, light console etc).
- g) Connect a DMX cable to the DMX OUT of previous machine, and the other end of to the DMX IN of next machine. Connect all devices in series in this way.
- h) Suggest to plug in a DMX terminator into the DMX OUT in last unit of machine to improve signal reliability. Signal amplifier is required for long distance (>200m) DMX signal transmission.

## **4. Activate SPARKULAR® WP by swipe RFID card**

- a) Swipe an RFID card. SPARKULAR® WP shows time remain if read successfully. SPARKULAR® WP report E4 when remaining time is less than 10 minutes. SPARKULAR WP only compatible with V2.0 RFID card.
- b) Please note each RFID card come with 200g package HC8600 can increase single machine 20min working time, the maximum recharge time for SPARKULAR® WP is 120min, when time remain reached 120min, it can't recharge anymore RFID card.

## **5. Programming and Firing**

- a) Programming SPARKULAR® WP, set the firing height, firing sequences etc.
- b) Heating up, it takes around 5min, it varies according to the voltage and environment temperature.
- c) Make sure the prescribed safety zone is clear.
- d) Suggest to clear material before firing.
- e) Firing. In order to prevent overheat in the heating chamber and protect machine, the maximum continuous firing time for SPARKULAR® WP is 30s.
- f) The operator should always have a clear view of the device, so that he/she can stop the show immediately when there is danger.
- g) Clear material for SPARKULAR® WP for 5s after show, clear material will remove the remaining particles from heating chamber. For angled installation, please elongate clear material time.

## **6. Turn Off and clean up**

- a) Power off SPARKULAR® WP, allow SPARKULAR® WP to cool down.
- b) Disconnect all POWER and DMX cables.
- c) Empty the remaining HC8600 in hopper, and store the remaining HC8600 in a dry sealed bottle for next time use. Never touch the output nozzle of SPARKULAR® WP when empty the hopper. DANGER OF GET BURNT!
- d) Operators can use handheld vacuum cleaner to empty the feeding hopper. Do make sure the machine was cool down when clean it. Do NOT use high-power vacuum cleaners to avoid hot consumables being sucked into the vacuum cleaner from the heating chamber and cause fire.
- e) Clean the surroundings to remove powder residues.

## **Δ Maintenance**

- a) Empty the feeding hopper before shipment of machine.
- b) Empty the feeding hopper if long time not use, for high humidity environment we suggest to empty feeding hopper after each show.
- c) Clear material both before and after the show.



## Δ Warranty Instructions

- \ Sincere thanks for your choosing our products, 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:**

- \ Damage caused by use other type of consumable which is not originally from SHOWVEN®.
- \ Damage caused by improper transportation, usage, management, and maintenance, or damage caused by human factors;
- \ Disassemble, modify or repair products without permission;
- \ Damage caused by external reasons (lightning strike, power supply etc.)
- \ Damage caused by improper installation or use;

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

Invoice is necessary when applying for maintenance service from SHOWVEN®.





# SHOWVEN<sup>®</sup>

**Distributor:**



Phone: 407-857-8770

Fax: 407-857-8771

Email: [sales@techni-lux.com](mailto:sales@techni-lux.com)

[www.techni-lux.com](http://www.techni-lux.com)



**Showven Technologies Co., Ltd.**

Tel: +86-731-83833068

Web: [www.showven.cn](http://www.showven.cn) E-mail: [info@showven.cn](mailto:info@showven.cn)

Add: Liuyang Economic Development Zone, Changsha, 410300, Hunan Province,  
P.R.China