USER MANUAL
SPARKULAR® Cyclone

V2.2
2022/07/07

**Showven Technologies Co., Ltd.**

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

⚠ Safety Instructions

\ Unauthorized repair are prohibited, it may cause serious incident.

\ SPARKULAR® Cyclone can be used in rain, but after use please clean it, and store it at dry environment.

\ Make sure lid of feeding hopper are well covered when use SPARKULAR® Cyclone.

\ Accidentally burning of consumable 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 or even damage SPARKULAR® Cyclone.

\ Please be noted that there may sparks or remains fall to the ground when use HC8200 LARGE, HC8200 LARGE I, HC8200 LARGE II, HC8200 LARGE III. Make sure there is no flammable objects such as carpet on the ground with a radius of 3m close to the machine.

\ Maximum cascade of SPARKULAR® Cyclone is 2 units with one standard power cable. For 110V version SPARKULAR® Cyclone, we suggest each machine connect to power supply directly. Otherwise it may damage the machine and even cause fire.

\ For better heat dissipation, block the air intake and air outlet is prohibited.

\ Cover the output nozzle of SPARKULAR® Cyclone 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® Cyclone, danger of getting burnt

\ Never touch the sparks which shooting out from the nozzle

\ Ensure that children, animals and unauthorized persons don't have access to the SPARKULAR® Cyclone.

Safety Distance

\ Keep audience and flammable material at a minimum distance of 3m from SPARKULAR® Cyclone.

\ Make sure sparks shoot out from SPARKULAR® Cyclone can NOT touch any objects. And keep a clearance with minimum 2m from the setting maximum effect height.

\ In windy environment, increase the safety distance according to the wind direction and speed.

\ The safety zone area changes 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.

2m

Max. effect height
HC8200 LARGEIII: 10m
HC8200 LARGEII: 9m
HC8200 LARGEI: 8m
HC8200 LARGE: 7m

3m
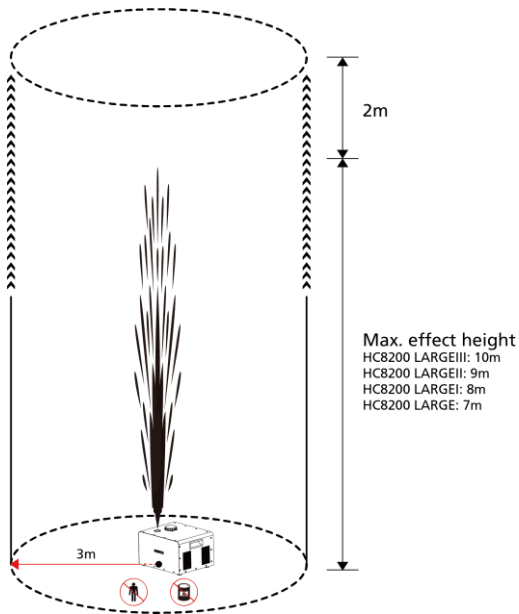
◬ Description

SPARKULAR® Cyclone is a brand new product with SHOWVEN® original technology. It is with amazing sparks effect up to 10m and equipped with auto brake system, ensure immediate stop even in max output. SPARKULAR® Cyclone with waterproof design allows shows not interrupted by rain. It is designed for the high demanding professional show market makes it an ideal choice for large shows, concerts, music festival, outdoor events etc.

◬ Technical Specifications

\ Model: BT61/BT62

\ Dimension: 457×370×280mm

\ Weight: 25kg

\ Input: AC 220VAC-240VAC, 50/60HZ; 1700W
         AC 100VAC-120VAC,50/60HZ; 1700W

\ Work Temp. : -20°C~50°C

\ Effect height: HC8200 LARGE III: 9-10m / HC8200 LARGE II: 8-9m
                HC8200 LARGE I: 7-8m / HC8200 LARGE: 6-7m

\ Height adjustable: Yes, gear 1~10

\ Effect direction: Straight up

\ Hopper capacity: 500g

\ HC8200 consumption: 75g/min

\ Interface: NEUTRIK POWERCON TRUE1, 3-pin and 5-pin XLR

\ Control: DMX 2 channels

△ Structure of SPRKULAR® Cyclone
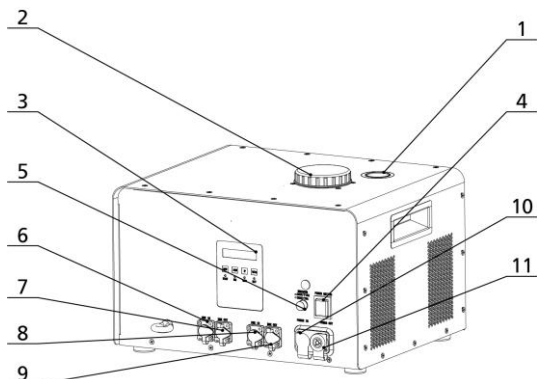
1. Output Nozzle
2. Feeding Hopper Lid
3. LCD Screen
4. Power Switch
5. Fuse
6. 5-pin DMX IN
7. 5-pin DMX OUT
8. 3-pin DMX IN
9. 3-pin DMX OUT
10. POWER IN
11. POWER OUT

Diagram of Bottom Panel
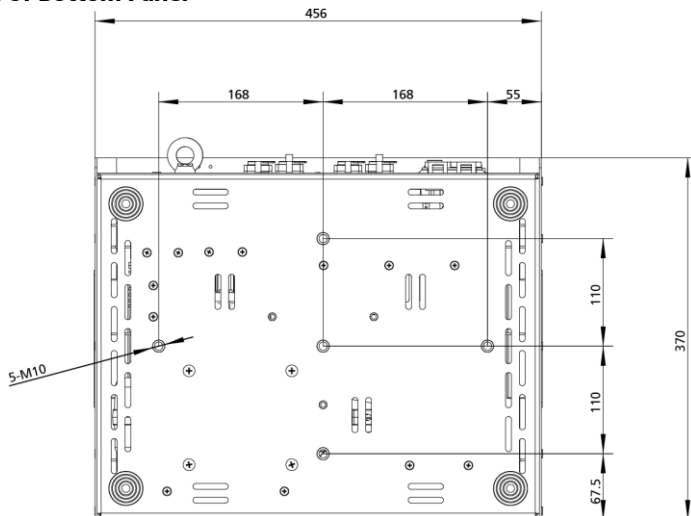
△ Operation Panel

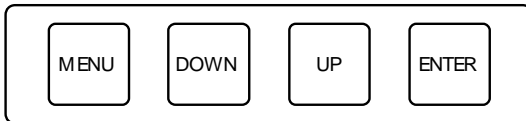### 1. LED display area:

○ READY ○ DMX ○ FAULT ○ HEAT

READY: Turns from flashing into long on, indicates that the machine is ready to work.

DMX: Flashing shows that DMX signal is connected; light OFF means there is no DMX signal

FAULT: Light ON when error occurs

HEAT: Light ON when system is heating up

2. Control button area:

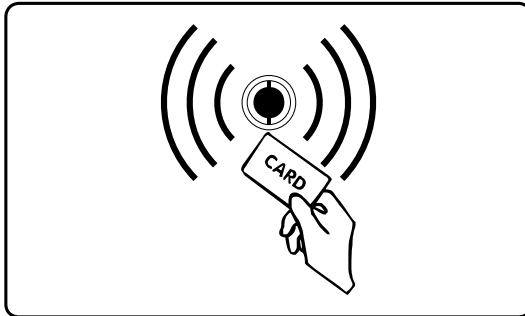MENU DOWN UP ENTER

MENU: Press to switch through menu, press and hold for 3s enter advanced menu

DOWN: Parameter down

UP: Parameter up

ENTER: Confirm and save parameters

3. RFID area:

Composite Ti with RFID card, swiping cards used to identify parameters and types of granules.
The RFID card is disposable, one card can only use one time.

△ Interface

1. Main Interface:

```
DMX  Address          1
210 ■ ■ ■            07.24
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First Line: shows DMX address

Second Line: shows inner temp. and temp. bar, as well as error info if available. Displays remaining time is 7 minutes and 24 seconds.

2. Error information

Error information	Explanation
E0 System IC	Systematic error
E2 Temp. Sensor	Temperature sensor is not connected or damage
E3 P Temp. Over	Chassis over-temperature
E4 Time Remain	Activated time for machine is not enough, please swiping RFID card
E5 K Temp. Over	Heating chamber over-temperature
E6 Heat Fail	Heating Fail, if it recovery automatically, problem is shortage of power supply

3. Setting Menu

Press "MENU" switch through setup menu.

Options	Range	Default	Explanation
Set DMX Address	1-512	1	Set DMX address. Each machine occupy two DMX channels. If controlled by Host Controller, please assign a unique address for each machine
Fountain Height	1-10	5	Manual firing height setup, for test only
Manual Heat	ON/OFF	ON	Auto preheat function switch after turn on machine
Manual Fountain	ON/OFF	ON	Manual firing, for test only
Auto Clear Delay	0.1-0.9s	0.2s	Auto clear material time after each firing

4. Advanced Menu

Press "MENU" 3 seconds to enter the advanced setup interface, press MENU key to enter different options, wait 3 seconds to return to the main interface.

Options	Range	Default	Explanation
Set Temperature	580-620	580	Default is 580. Please don't change default value without engineer's suggestion from SHOWVEN®.
Wireless Control	ON/OFF	OFF	n.a.
LCD Backlight	ON/OFF	ON	LCD screen backlight ON/OFF

Density@ Height 1	14-90	80	Sparks density @ Height gear 1
Density@ Height 2	14-90	80	Sparks density @ Height gear 2
Density@ Height 3	14-90	80	Sparks density @ Height gear 3
Density@ Height 4	14-100	80	Sparks density @ Height gear 4
Density@ Height 5	14-100	80	Sparks density @ Height gear 5
Density@ Height 6	14-100	80	Sparks density @ Height gear 6
Density@ Height 7	14-100	80	Sparks density @ Height gear 7
Density@ Height 8	14-100	90	Sparks density @ Height gear 8
Density@ Height 9	14-100	100	Sparks density @ Height gear 9
Density@ Height 10	14-100	100	Sparks density @ Height gear 10
Mode Selection	Factory Mode / User Mode	User Mode	Factory mode is for engineer only. When in Factory mode machine can't controlled by DMX console/host controller
DMX Channel	2 / 4 / 2+3 DMX Channel	2 DMX Channel	Don't change. 4 DMX Channel and 2+3 DMX Channel are for special use.
Braking	ON/OFF	OFF	When ON, blower motor will auto brake when stop firing, frequent braking will leads to over temp.
Standby Switch	ON/OFF	OFF	When ON, the machine can firing only when heating up was finished

For better performance of SPARKULAR$^{®}$ Cyclone, please don't change the default value without permission from SHOWVEN$^{®}$.

## 5. DMX Control

SPARKULAR$^{®}$ Cyclone occupy 2 channels.

First channel	Function
0-15	Firing OFF
16-255	Firing ON and with adjustable height
Second channel	**Function**
60-80	Clear Material
20-40	Emergency Stop
0-10	Pre-heat OFF (disabled when auto-heat ON)
240-255	Pre-heat ON (disabled when auto-heat ON)

△ Operation Guide

1. Install SPARKULAR$^{®}$ Cyclone

a) Horizontal installation is preferred for SPARKULAR$^{®}$ Cyclone. If need to installed SPARKULAR$^{®}$ Cyclone in angles, maximum firing angle is 45 ° and can only be angled to the right side as below picture.

b) Make sure the machine is securely installed to avoid tipping.
c) The safety zone area shifts accordingly when machine installed in tilt position. Please increase the safety distance in the direction which machine tilt.
d) Check carefully the output nozzle of each machine, make sure the output nozzle is in good shape and there is no powder aggregate.

LCD

45°
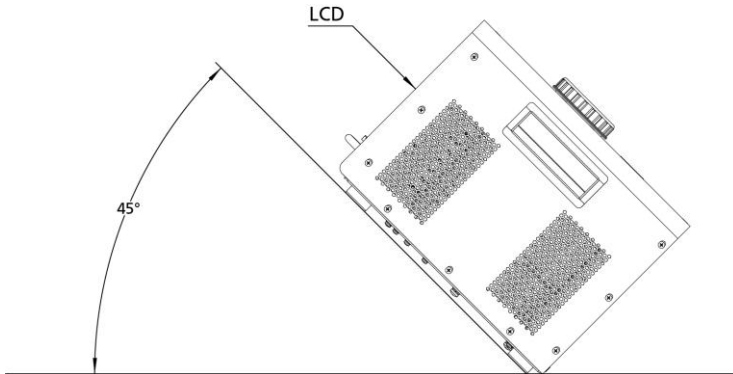
2. Fill SPARKULAR$^®$ Cyclone

a) Open powder bags and fill the feeding hopper. Hopper capacity of SPARKULAR$^®$ Cyclone is 500g.
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: HC8200 LARGE Ⅲ is 10m, HC8200 LARGE Ⅱ is 9m, HC8200 LARGE Ⅰ is 8m and HC8200 LARGE 7m.
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$^®$ Cyclone. Connect the other end of power cable to the power source. Make sure power supply in 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 Maximum cascade of SPARKULAR$^®$ Cyclone is 2 units with one standard power cable. For 110V version SPARKULAR$^®$ Cyclone, we suggest each machine connect to power supply directly. Do not connect exceed units to a single electrical circuit.
d) Power ON all SPARKULAR$^®$ Cyclone.

e) Assign DMX address for each unit of SPARKULAR$^{\circledR}$ Cyclone. If use SHOWVEN host controller or FXcommander to control the machine please allocate a unique DMX address for each unit of machine.

f) Connect a DMX cable to the DMX IN socket of first unit of SPARKULAR$^{\circledR}$ Cyclone, 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$^{\circledR}$ Cyclone by swipe RFID card

a) Swipe an RFID card. Read the card as show below. SPARKULAR$^{\circledR}$ Cyclone shows time remain if read successfully.

b) SPARKULAR$^{\circledR}$ Cyclone will report E4 when remaining time is less than 10 minutes.

c) Please note each RFID card come with 200g package HC8200 can increase single machine 10min working time, the maximum recharge time each time for SPARKULAR$^{\circledR}$ Cyclone is 30min, when time remain reached 30min, it can't recharge anymore RFID card.
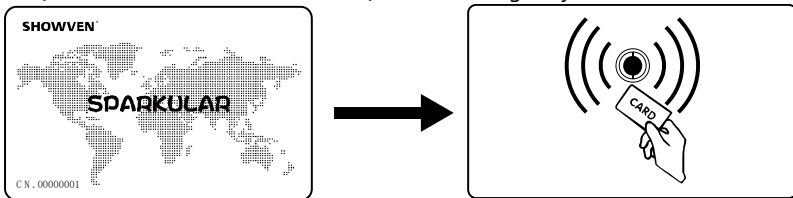
5. Programming and Firing

a) Programming SPARKULAR$^{\circledR}$ Cyclone, set the firing height, firing sequences etc.

b) Heating up machine, it takes around 5min. it various 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$^{\circledR}$ Cyclone 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$^{\circledR}$ Cyclone 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$^{\circledR}$ II, allow SPARKULAR$^{\circledR}$ Cyclone to cool down.

b) Disconnect all POWER and DMX cables.

c) Empty the remaining HC8200 in hopper, and store the remaining HC8200 in a dry sealed bottle for next time use. Never touch the output nozzle of SPARKULAR® Cyclone 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.

△ Maintenance

1. Empty the feeding hopper before shipment of machine.

2. Empty the feeding hopper if long time not use, for high humidity environment we suggest to empty feeding hopper after each show.

3. Clear material both before and after the show.

⚠ **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 from SHOWVEN$^{®}$ or SHOWVEN$^{®}$ authorized distributor.

\ 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®