User Manual
Cold Spark Machine

Model：SP650

I. **Product brief**
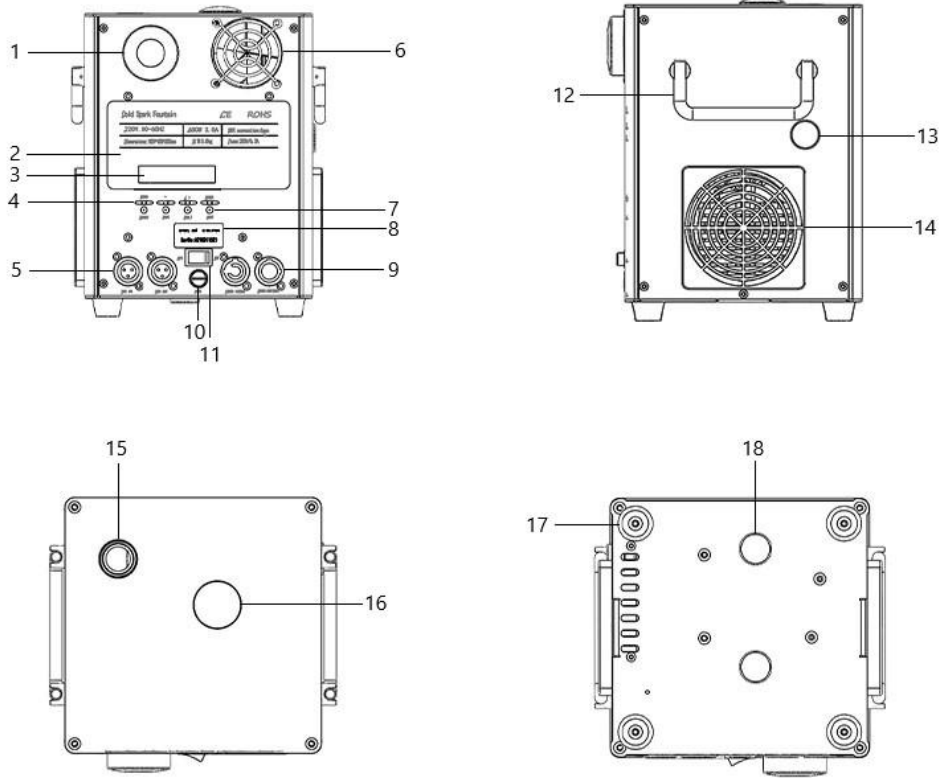
Indications：

	indications								
1	remote receiver	**6**	fan	**11**	power switch	**16**	filling hopper
2	parameter plate	**7**	indicator light	**12**	foldable handle	**17**	washer
3	display	**8**	service code	**13**	fix hole	**18**	clear hole
4	button	**9**	power port	**14**	anti dust net		
5	DMX port	**10**	fuse	**15**	sparkling hole		

Remarks：in case of adjustment of the appearance & function, there is no other explanation, please refer to the actual product.

II. **Specifications**

Spark height（m）	1-5
Direction	fountain
Working Temp.（℃）	-10℃-50℃
Power（W）	650w 6A (110V)； 650w 3A (220V)
Fuse	110V/10A, 220V/6A
Port	dual DMX port，dual AC powder port
Control mode	DMX /remote
N.G.(kgs）	5.88
Size（mm）	205*200*252mm
Warranty（Year）	1

III. **DMX Explanation**

1.The machine has DMX IN and DMX OUT port，workable with universal 512 DMX control.

2.DMX channel：this machine take 2 channels.

1st CH	Function	Display
0-10	Preheat OFF	HEAT OFF HEAT indicator light OFF
11-220	Emergency stop	Emergency stop
221-239	Consumables clear	Clear...
240-255	Preheat ON	0-600℃
2nd CH	Function	
0-15	Sparks OFF	
16-63	Spark height 1	display screen backlight OFF
64-111	Spark height 2	display screen backlight OFF
112-159	Spark height 3	display screen backlight OFF
160-207	喷花高度 4	display screen backlight OFF
208-255	喷花高度 5	display screen backlight OFF

3. DMX address code setting

DMX indicator light ON after connecting machine to control console with signal cable, press MENU to enter DMX setting page, press ^ and <> to set digital. Max setting 512 channels, this machine take 2channels, therefore each machine's address code should be odd digital such as 001,003,005...default setting 001, after setting press ENTER to save and go back to main page.

Remarks: under DMX512 control mode, each machine is connected by DMX INPUT and OUTPUT, the XLR plug should be corresponding to each other. when connecting machine it is advisable to use DMX signal terminator and twisted shielded cable to avoid signal interference.

4.Under DMX control mode, remote control is not available.

IV. Indicator lights & buttons

READY: **green**   Indictor light flash, software is preparing; Indicator light on constantly, machine is

ready for work.

DMX: **blue**   Indicator light flash, remote controller already connected; Indicator light on constantly,

DMX control console already connected; Indicator light off, no signal control mode connected.

FAULT : **red**   This defect indicator light on when there is defect.

HEAT : **yellow**   Indicator light on，machine is under heating; Indicator light off, already reach the

setting temperature; Indicator light on constantly, heating function closed.

MENU: menu   1.under DMX control mode, press to enter 512 channels setting page.

2.press for 5 seconds to enter temperature setting page.

^ < >: **value setting**   For setting parameter value on corresponding page.

ENTER： **setting save.**   1. press ENTER to save setting on setting page.

2. on default page, press ENTER two times quickly to enter preheating.

3. under heating, press ENTER two times quickly to close heating.

V. **Remote controller**

A- Preheat / Stop

B- Low

C- Medium

D- High

A：1. after switch on machine, press A to connect machine and preheat, then DMX indicator light and HEAT indicator light flash.

2. Under sparkling status, press A to stop machine.

3. Press A for 5 seconds to enter consumables clearing and lasting 30seconds.

B： Press B for a low spark height.

C： Press C for a medium spark height.

D： Press D for a high spark height.

VI. **Remote controller / DMX console operation**

1) **Remote controller operation**：

1、connect power cable and switch on machine.

2、press button **A** to connect machine and enter preheat, when READY indicator light on, machine is ready for sparkling.

3、press **B /C /D** to get a different height sparks.

2）**DMX console operation**：

❶ connect power cable and switch on machine, then connect DMX signal cables, DMX indicator light on, DMX connecting successfully.

❷ push the 1st channel pole to top to enter preheat, when READY indicator light on constantly, machine is ready for sparkling.

❸ push the 2nd channel pole to get different height sparks.

VII. **Consumables**

1） **specifications**： N/Y: spark height in 1.0-3.5M（0.5M deviation）.

W/Y: spark height in 2.0-5.0M（0.5M deviation）.

2） **Consumables choose**： please use the corresponding consumables from our company to make sure a good spark effects： （we will not provide warranty in case machine's block or damage caused by using consumables from other supplier.

3） **storage**： consumables should be kept on a dry and sealed container to avoid damp.（**DO NOT** put consumables into machine if it get damp）

4） **refilling**： if spark comes less, please switch off machine and refill consumables.

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VIII. Clearing & Maintainance

1） anti dust net clearing： take off the net from machine to clear it.

2） machine outer clean： use a soft cloth to clear outer of machine outer.

3） consumable clearing： after operating machine each time, switch off machine and pour out remain consumables, then switch on machine and clear consumables completely with consumables clearing program .（we will not provide warranty for problems caused by improper consumables clearing）

4） inside machine clearing： there is clean hole in bottom of machine, open the hole stopper to clear inside machine

IX. After sales

1） warranty: one year from date of manufacture.

2） there is warranty code sticker on machine, please show warranty code when service, warranty code void if ripped.

3） Video or pictures may requested for reference when after sales service.

Ⅹ. Fault & Troubleshooting

Appearance	Cause	Troubleshooting	
Error 0	heating fault	1：check heat PCB 2：replace heat PCB or heating element	
Error 1	sensor fault	1：check sensor if loosen 2：replace sensor	
Error 2	high temperature	stop sparkling for 2 minutes	

Error 3	anti tilt activate	lay machine flat and connect machine again	
Emergency stop	Touch emergency stop on DMX console	switch off and restart machine	
Screen goes off /power off	Power off protection activate	1：check cooling fan & anti dust net if blocked. 2：switch off machine for 10 minutes to cool down machine and restart.	

Warning：when there is fault indicator light (red) on, switch off machine immediately to avoid additional losses, check and solve fault before running machine again.

XI. Safety warnings

⚠	spark outlet is in a high temperature, do not touch.
⚠	Consumables filling hopper
⚠	reminds the operator of danger and provide important information on safe and effective operation. Example of safety statement: Warning: Remind the operator of hazards or potential danger. This manual contains the hazard description and consequences.
👓	protect eyes when operating machine.
⚡	electricity shock warning! do not open the machine or remove any parts inside without authorization. The machine and controller must be opened by person who received professional training.
☂	keep machine and controller in dry place，do not operate machine in rain& snow
清理	after operating machine each time, switch off machine and pour out remain consumables, then switch on machine and clear consumables completely with consumables clearing program. Before transporting machine, pour out remain consumables and put it in a sealed &dry container for use next time.

1）The machine has a built-in protection program, which will automatically stop after a single continuous spark reaches 30 seconds. continuous spark for too long will cause the interior to heat up rapidly, which may can cause damage or permanent damage to the internal structure of the equipment. It is recommended that a continuous spark time should not exceed 1 minute.

2）A standard power cord only allows a maximum of 6 machines to be connected in series, too many connections in series may cause damage or fire disaster. (power of the equipment is large, please pay attention to the configuration according to the load when using)

3）If there is no normal spark at the sparks nozzle during use, please stop the equipment operation immediately and contact after sales service.

4）Don't switch off the power immediately after spark, turn off the heating program and let the cooling fan discharge internal heat of the machine when the power is turned on.

5）Please use the machine in an open space and keep a safe distance of at least 5 meters from people.

6）Make sure the equipment is turned off before consumables feeding.

7）If the consumable is accidentally ignited, please use sand to extinguish it, do not use water.

8）Damage to the device due to improper use or human factors is not covered by the warranty.

9）The final interpretation right belongs to our company.

XII. **Disclaimer: Please read the instruction manual carefully before operating, and our company is not responsible for equipment damage or casualties caused by non-compliance with the instructions.**