USER MANUAL
cFlamer

V1.0

2025/03/01

SHOWVEN®

SHOWVEN Technologies Co., Ltd

Thanks for choosing SHOWVEN cFlamer, we wish it will bring you lots of exciting moments. Please read the following user's manual and related product installation guide carefully before operating this device.

⚠ Safety Instructions

1. Safety icons explanation

Safety instructions warn of hazards when handling equipment and provide information on how to avoid those hazards. They are classified according to the severity of the hazard and are divided into the following groups. Please do follow all safety instructions in this document!

DANGER: Indicates a hazardous situation that, if not avoided, will result in death or serious injury. (This signal word is limited to the most extreme situations)

WARNING: Indicates a hazardous situation that, if not avoided, could result in serious injury.

CAUTION: Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE: Provide additional or supplementary information.

2. General Safety Instructions

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

\ Make sure power supply in consistent with the rated voltage of the equipment, and the socket must well grounded. Unplug and turn off the machine when not use.

\ Please connect DMX cable before power on cFlamer, and ensure that the communication command is disarmed, and the safety switch of device is under test mode.

\ After turning on the device, no person allows to stay in the safety isolation zone. Ensure all persons that are part of the show be informed about the safety distance, risks and functions of the device.

\ Always have a CO_2 fire extinguisher and an extinguishing blanket in case of needed.

\ If there be any doubt as to the safety operation of the device in any circumstances, the device should be taken out of service immediately. Be sure the device is in good operating condition before use. If fail to fire correctly, immediately shut down and check it accordingly. Any questions please always contact SHOWVEN (info@showven.cn) for help.

\ Be sure to use high quality fuels, otherwise, it is easily leads to failure or danger. Please keep fuels away from heat source, sparks, fire or other possibility of ignition. Do not smoke!

\ The operator responsible for the control of flame system 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 near operator. So that operator can turn off the power of all devices in case of abnormal.

\ Please connect device with SHOWVEN E-STOPPER so that operator can stop the device immediately if there is any emergency case.

\ The device shall not be altered and applied to other use purpose.

3. Disclaimers:

SHOWVEN technologies Co., Ltd excludes liability for unsafe situations, accidents and damages resulting from:

1. Ignoring warnings or regulations as shown on product manual or this manual.

2. Use for other applications or circumstances other than those indicated herein.

3. Changes to the device, including use of non-original spare parts, lack of maintenance etc.

4. Dismantling device without authorization from SHOWVEN.

5. Use this machine by unqualified or untrained personnel.

6. Improper use of machine。

A dry powder fire extinguisher, a carbon dioxide fire extinguisher and a fire blanket must be equipped next to the equipment. Someone must be on duty during operation. In case of fire accident, dry powder fire extinguisher can be used when the fire is large, and a carbon dioxide fire extinguisher can be used when the fire is small.

ᐃ Technical Specifications

ᐧ **Model:** cFlamer (FA01)

ᐧ **Housing Material:** Stainless steel + Aluminum

ᐧ **Dimension:** 370×330×305mm

ᐧ **Weight:** 20kg

ᐧ **Input:** AC100-120V / AC 200-240V, 50/60Hz

ᐧ **Work Power:** 400W

ᐧ **Ignition:** Dual igniters, high voltage electron ignition

ᐧ **Dual Vlave:** Yes

ᐧ **Control:** DMX , 9-60V pyro signal, Wireless with Wireless DMX Receiver (5-PIN DMX IN with DC5V power supply)

ᐧ **DMX:** 3-pin and 5-pin DMX IN / OUT

ᐧ **E-Stop Interface:** Yes, can be connected in series

ᐧ **Effect Direction:** Vertical

ᐧ **Flame Height:** Max. 10m (no wind, cH nozzle, SHOWVEN color fluid);

Max. 12m (no wind, cH and H nozzle, ISOPAR L and ISOPROPANOL);

Max. 10m (no wind, PM and M nozzle, ISOPAR L and ISOPROPANOL);

Max. 8m (no wind, L nozzle, ISOPAR L and ISOPROPANOL);

Max. 6m (no wind, EL nozzle, ISOPAR L and ISOPROPANOL);

ᐧ **Tank Capacity:** 5.3L

ᐧ **Fuel:** SHOWVEN color fluid, ISOPAR L, ISOPROPANOL

ᐧ **Color Optional:** Red, Gren, Blue, Yellow, Purple (only compatible with SHOWVEN original color fluid)

ᐧ **Fuel Tube Filter:** Yes

ᐧ **Tip sensor:** Yes

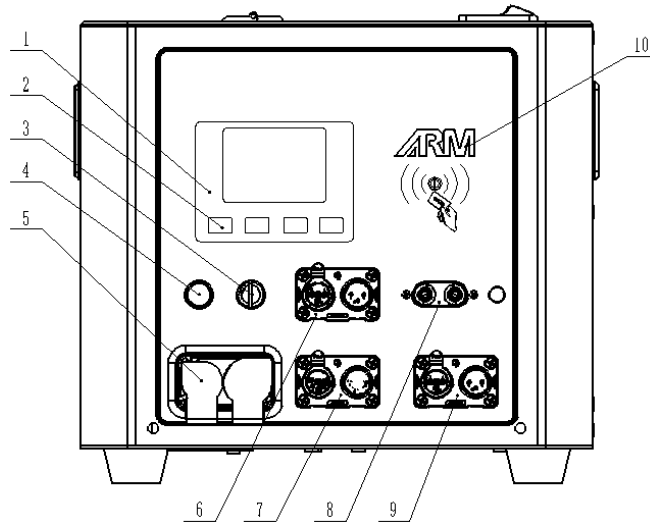ᐧ **Usage in Rain:** Yes

ᐧ **ARM light:** Yes

△ Structure
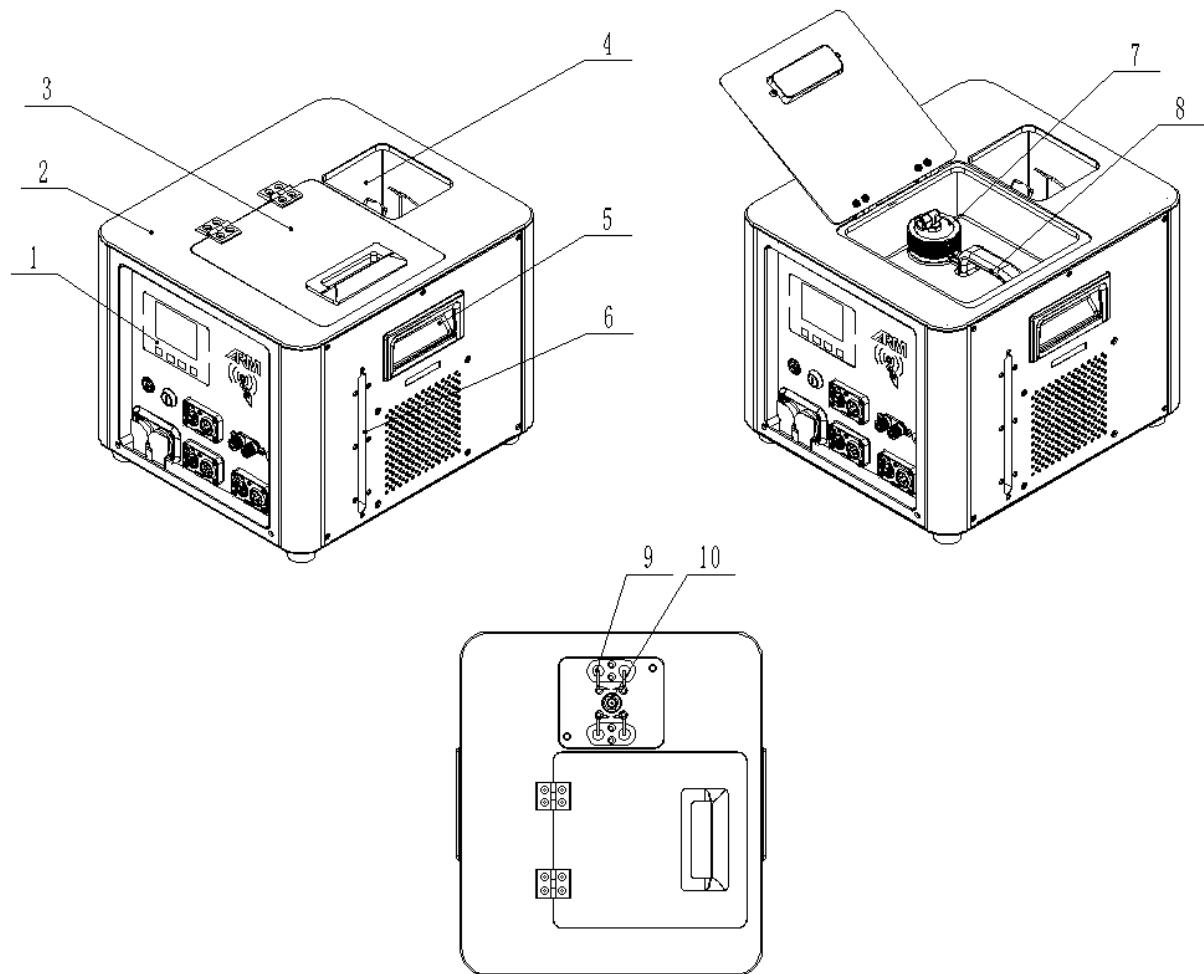
1. Rear panel
2. Top panel
3. Fuel tank cover
4. Fire box
5. Handle
6. Liquid level window
7. Fuel tank cap
8. Fuel tank
9. Igniter
10. Nozzle

Diagram of bottom panel
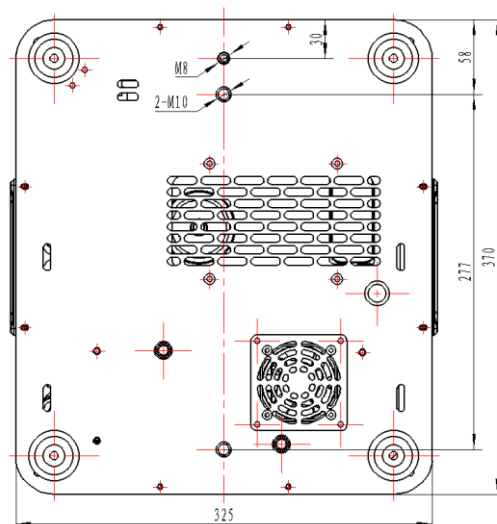
△ Rear Panel

1. LCD screen
2. Touch button
3. Safety switch
4. Power Switch (with Power indicator light)
5. Power IN / OUT
6. 3-pin XLR IN/OUT
7. 5-pin XLR IN/OUT (5-PIN XLR IN can charge for wireless DMX pen through pin1 and 4, pin4 with DC5V power supply)
8. 9-60V pyro signal port
9. E-stop interface
10. ARM indicator light

△ Display and setting

1. **Welcome interface**

Software Version	FA01-250109
Serial Number	＊＊＊＊＊＊＊＊＊＊＊
Pump Run Time	00:00:00
Ignition Times	xx

2. **Main interface**
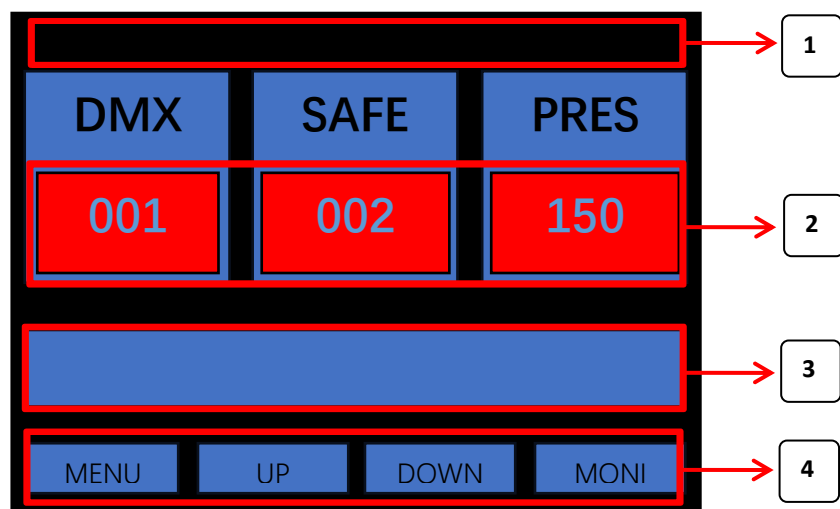
1.) Status Bar
   : appears when "External Trigger" is "ON"
   : appears when "safety switch" stay at "USER MODE"
   2N/2P/6N: DMX channel mode
2.) Data Bar
   DMX: DMX address, Background turns from BLACK to RED when DMX cable was connected.
   SAFE: Safety address, Background turns from BLACK to RED when DMX cable was connected and safety channel activated.
   PRES: Pressure value. Background turns from BLACK to RED when pressure reached / exceed 90% of "set pressure"value.
3.) Message Bar
   USER MODE / error or alert information display, Background color turns to RED when under "USER MODE".
4.) Touch Button function display:
   First Button: MENU / BACK
   Second Button: UP / LEFT
   Third Button: DOWN / RIGHT
   Fourth Button: MONI / EDIT / SAVE

3. ARM indicator light

Operators can enable/disable the arm indicator light by set the "ARM STATE" in ADVANCED menu. If "ARM STATE" is ON, there will be three status:
OFF: DMX signal input
BLINK: DMX armed or Ext Ignite in advanced menu is ON
ON: no DMX signal and Ext Ignite in advanced menu is OFF

4. Alert Message

Alert Message	Why it appears	How to remove
E0 Test Mode	Safety Key Switch at TEST MODE	Switch Key to USER MODE
E0 Factory Mode	Factory mode	Switch to Normal mode
E0 ExtIgnite ON	"External Trigger" is "ON"	Set "External Trigger" to "OFF" in Advanced menu
E0 Ignition Disenable	"Ignition" is "Disenable"	Set "Ignition" to "Enable" in Factory menu
E0 Key Lock	Touch button no operation in 30s	Restart machine

5. Error Message

Error Message	Why it appears	How to remove
E1 Pressure Err	Consecutive pressurize failure times exceed "Pressure Fail Cnt" setting value in factory menu. Possible reasons: 1. Fuel tank empty 2. Pump failure 3. Fuel leakage 4. Pressure sensor damage 5. Pressure relief valve malfunction 6. Pipe system cannot maintain pressure.	Restart machine and check below items accordingly 1. Fill tank 2. Check pump 3. Check whether there is leakage inside machine 4. Check pressure sensor 5. Check relief valve 6. Check relief valve and check valve, or whether there is leakage inside machine.
E2 P Relief Err	Pressure high after depressurize. Possible reasons: 1. Pressure relief valve malfunction 2. Fuel pipe block	Restart machine and check below items accordingly 1. Pressure relief valve 2. Check fuel pipe

E3 Press Sensor	Pressure sensor disconnect / damage	please check pressure sensor.
E4 Pump Protect	1. Pump overload working 2. Main board malfunction	1. Power off machine and let the system cool down, then restart. 2. Replace main board
E6 Tip Err	1. Machine slant over 45° , it stops running. 2. Main board malfunction	1. Tip setting set to OFF, or horizontal install machine. 2. Replace main board

6. Monitoring Interface

Press "MONI" enter below interface

Menu	Explanation
Pressure	Current pressure value. -62 means pressure sensor disconnected
DC voltage	DC power supply voltage
Pump	Pump current value
User Mode	<15V is under test mode
Pump Run Time	Accumulative pump working time
Ignition Times	Accumulative ignition times

7. Menu Interface

Press "MENU" enter below interface

Menu	Explanation
MAIN	Main menu
ADVANCED	Advanced menu
TEST	Test menu
FACTORY	Factory menu (factory use only)

8. Main menu

Select "MAIN" in menu interface, press "EDIT" enter main menu. Use UP / DOWN / SAVE to change the parameters.

Menu	Range	Default	Explanation
Set DMX Address	1~512	1	DMX address setup
DMX Mode Select	2CH-N/2CH-P/6CH-N	2CH-P	DMX mode setup
Set Safety Address	1-512	2	Safety address setting under 2CH-P mode
Safety Level	76-120/ 102-153/ 127-178/ 153-204/ 178-229	102-153	Available only under 2CH-P mode. Safety channel DMX value within the set threshold range, firing enabled; outside the range, firing disabled.

9. Advanced menu

Select "ADVANCED" in menu interface, press "EDIT" enter advanced menu. Use UP / DOWN / SAVE to change the parameters.

Items	Contents	Default	Description
External Trigger	OFF / ON	OFF	Trigger through 9-60V pyro ignition signal
External Time	JOG, 0.1s~10.0s	0.2s	Firing duration under external trigger, this menu appears only when Ext Ignite is ON. If choose JOG, the fire duration will in accordance with the signal input, signal in firing start, signal stop firing stop. Max firing duration will be limited by"Max Jet Time"
Tip Setting	OFF / ON	ON	Turn ON/OFF tip over function
Key Sound	ON/OFF	ON	Touch button sound ON / OFF
ARM State	ON/OFF	ON	ARM indicator light ON/OFF setting
LCD Backlight	ON/OFF	ON	LCD backlight ON/OFF. When ON, screen will flash when firing; OFF: LCD screen will turn off when no operation.
Key Lock	ON/OFF	OFF	ON: Touch button will disable if there is no operation in 30s. restart machine to active touch button.
Default Parameter	ON/OFF	OFF	Reset default parameter settings

10. Test menu

Please disconnect DMX connection before enter test menu.

Select "TEST" in menu interface, press "EDIT" enter test menu. Use UP / DOWN / SAVE to change the parameters.

"External Trigger" will disable after enter TEST menu, Pressure relief valve will open, below related items will shows "Running" when testing, shows "Finish" after test finished.

Items	Description
ARM Test	Test ARM indicator light, blink once/s, blink 3 times
Jet Valve 1 Test	Jet valve 1 ON/OFF 3 times, 1s per time. Operation: choose "Jet Valve 1 Test", turn safety switch to "User Mode", press "ENTER"
Jet Valve 2 Test	Jet valve 2 ON/OFF 3 times, 1s per time. Operation: choose "Jet Valve 1 Test", turn safety switch to "User Mode", press "ENTER"
Relief Test	Relief valve ON/OFF 3 times, 1s per time
Fuel Valve Test	Fuel Valve ON/OFF 3 times, 1s per time
Igniter 1 Test	Igniter 1 ON/OFF 3 times, 1s per time
Igniter 2 Test	Igniter 2 ON/OFF 3 times, 1s per time
Pump Test	Pump will pressurize to "Set Pressure" value and keep 0.2s, and display "F". If pressurize time exceed setting value of "Max Pressure Limit", means pump test fail, it will display "E". Display "R" means machine is pressurizing.

⚠ DMX CONTROL

cFlamer with 3 different channel mode: 2CH-P, 2CH-N and 6CH-N.

2CH-P(2P):

In this channel mode cFlamer occupies 1 functional channel CH-F and 1 separate safety channel CH-S (this channel is independent from operational channel, can be shared with other machine).

Channel	Function	Value
CH-F	Firing	**0~110:** Firing OFF **111~255:** Firing ON
CH-S	Firing Enable / Disable	**0~101 and 154~255:** Depressurize mode, disable device (Emergency STOP) **102~153:** Pressurize mode, enable device Above setting is take the default safety level (102-153) setting as an example, other safety level value setting please refer to main menu

2CH-N(2N):

In this channel mode cFlamer occupies 2 functional channels.

Channel	Function	Value
CH1	Firing	**0~110:** Firing OFF **111~255:** Firing ON
CH2	Firing Enable / Disable	**0~239:** Firing Disable (Emergency STOP) **240~255:** Firing Enable

6CH-N(6N):

In this channel mode cFlamer occupies 6 functional channel. This channel mode is designed to control the cFlamer together with CIRCLE FLAMER on our Host Controller.

Channel	Function	Value
CH1	-	-
CH2	-	-
CH3	Firing ON/OFF	**0~253:** Firing OFF **254~255:** Firing ON
CH4	Firing Duration setup	**0 and 255:** permanent fire (10s is limit duration time) **1~254:** 10~2540ms duration time (Manual firing duration = DMX Value * 10ms)
CH5	-	-
CH6	Firing Enable / Disable	**0~49 and 201~255:** Firing Disable (Emergency STOP) **50~200:** Firing Enable

⚠ Operation

1. Safety distance explanation

Safety distance for cFlamer divided into two parts safety radius around machine (a) and safety distance at firing direction (b). No person and flammable materials are allowed to stay inside the safety isolation zone when flamer was armed.

The safety radius around machine with a radius of 3m.

For safety distance at firing direction equals to maximum firing height * 1.5.

Nozzle Type	Max. Flame Height	Safety Radius (a)	Safety Distance at Firing Direction (b)
SFSMA033 Nozzle cH	10m	3m	15m

The cFlamer safety isolation zone (show as below) is a cylindrical three-dimensional space with Safety radius around machine (a) and Height of b. Unauthorized persons and objects are strictly prohibited from entering.

For angled installation, the safety distance both around machine and firing direction should shift accordingly.
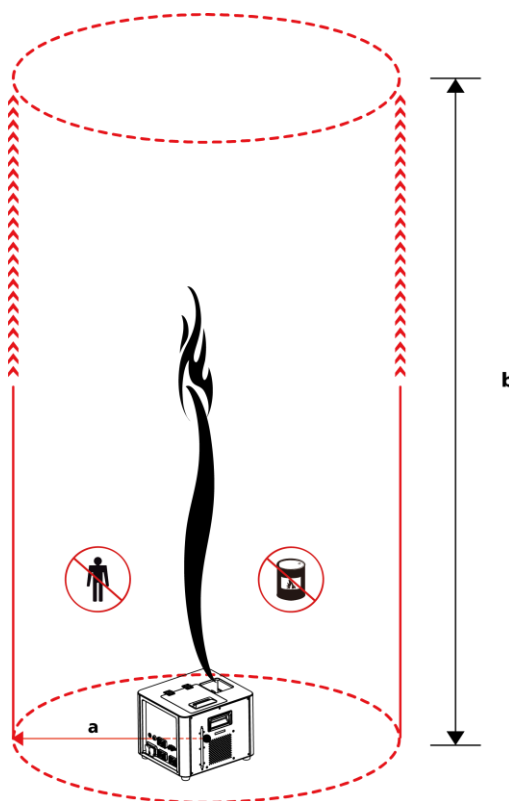

Safety distance in windy environment

The safety isolation zone radius (a) increase with wind direction and wind speed (v, m/s). The safety distance in windy conditions can be calculated as below: $a = 3 + v$;

For example when the wind speed is 3m/s, then the safety isolation zone radius should be 6m, When the wind speed ≥ 8m/s (wind force ≥ 5), please use it with caution. When wind speed ≥ 17m/s （wind force ≥ 8）, please stop use cFlamer.

2. Install cFlamer

   a) Horizontal installation is preferred for cFlamer. If need to install cFlamer in angles, to avoid fake error message please turn the TIP Setting OFF first. cFlamer with maximum tilt angle of 45° or -45°, and it can be angled to two directions as show in below picture. Besides please be aware the fuel level in fuel tank to avoid fuel leakage when tilt installation.
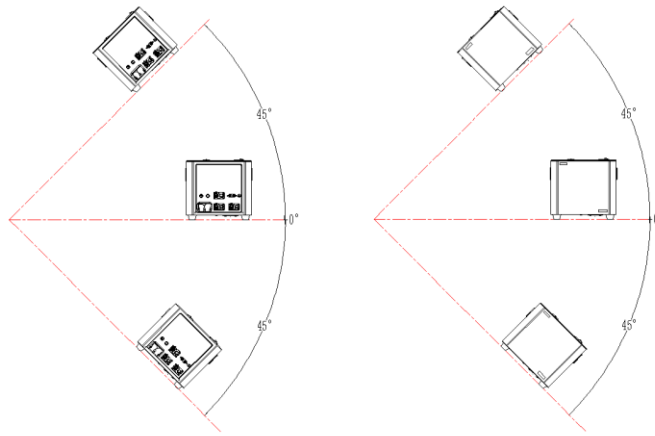
b) For truss installations always connect with safety rope to ensure extra safety. If there is any other national or regional guidelines please follow it accordingly.
c) Double confirm the machine was firmly installed.

WARNING:
Ensure the installation position of cFlamer meet above safe distance requirements. cFlamer supplied with a nozzle cH which generate up to 10m flame.

3. Color fluid preparation

a) Ensure all containers, fuel tanks etc are clean and free of impurities. Highly recommanded to use container/fuel tank with a fixed color, not mix with different colors. If you have no extra tanks, please wash container / fuel tank with clean water thoroughly before use another color fluid.
b) When wash the fuel tank, add half of the fuel tank capacity of clean water, shake it repeatedly for 30 seconds, pour out the water, and repeat the cleaning process twice.
c) Perform the mixing operation according to the instructions on the color additive label. For blue, pay special attention to the proportion and addition order. Add 2 bottles (125ml*2) of BLUE A liquid to 5L diluent liquid and shake well, and then add 15ml BLUE B liquid. For other colors, just add 125ml color additive to 5L diluent liquid and shake well.
d) There will be solid precipitate at the bottom of color additive bottle when environment temperature is low, please shake repeatedly to dissolve the solid precipitate before add it to the methanol.
e) Please shake and mix the color fluid well before use.
f) The prepared color fluid needs to be stored with a cap and implemented in accordance with the requirements of the diluent liquid MSDS or local regulations.
NOTICE:
Ensure that the purity of diluent liquid.
WARNING:
The preparation operation should be carried out in a well-ventilated place, away from fire, sparks and heat sources. Dry powder or carbon dioxide fire extinguishers should be prepared for use in the operation site.
WARNING:
cFlamer series product compatible with color fluid only prepared with SHOWVEN original color additives, other colored fuels are forbidden to use on the product, It will sure damage the machine.

4. Fill the cFlamer

a) Switch safety lock to TEST MODE.
b) Fill the fuel tank with qualified color fluid we prepared.
c) To avoid color mix, it is highly recommended to fix the color used on each unit of cFlamer. In case need to change to another color fluid please execute pipeline clean process (refer to *11. Pump and pipeline cleaning* of this manual).
WARNING:
The warranty is void if any other type of color liquid or additive is used.
NOTICE:
SHOWVEN excludes liability for the losses, damages and accidents caused by not using qualified fuels in accordance with this requirement.

5. E-Stopper / E-stop terminator Connection

E-stop interface is a power cut-off interface, the machine can be powered on normally only when E-STOP in is connected. For safer use of cFlamer we suggest to connect it with E-stopper. For operators who don't want to use E-stopper can plug a E-stop terminator in E-STOP IN to enable the device.

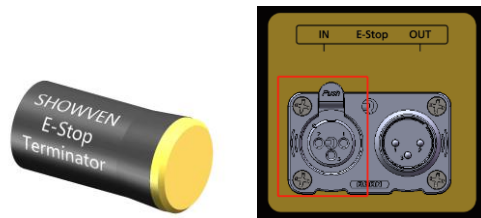**E-Stopper (optional) connect with single unit of cFlamer.**

E-Stopper (optional) connect with multi units of cFlamer in daisy chain.

NOTICE: *A unit of E-Stopper can control maximum 24 units of device.*

Use E-stop terminator (standard configuration): if without E-Stopper. Plug the E-stop terminator to the E-STOP IN port to enable the cFlamer.


6. Connecting cFlamer

Make sure the DMX or pyro controller is disarmed or powered off during cable connection.

If control by DMX controller, follow below steps:

a) Connect a DMX cable to the DMX IN socket of first unit of cFlamer, another head of this DMX cable connect to DMX console (such as FXcommander). Make sure the DMX console is powered off.
b) Connect a DMX cable to the DMX OUT socket of previous cFlamer, and the other end to the DMX IN of next machine. Connect all devices in series in this way.
c) Suggest to plug in a DMX terminator into the DMX OUT in last unit of machine to improve signal reliability. For distance >200m please use SHOWVEN DMX splitter 8 to amplify the signal.
d) Connect a power cable to the POWER IN socket of cFlamer. Make sure power supply in consistent with the rated voltage of the equipment, and the socket must well grounded.
e) Power on all cFlamer. Check the safety lock, double confirm it stays at "TEST MODE".
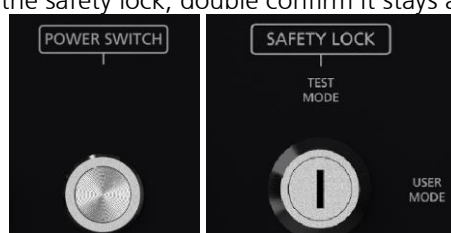
f) Assign DMX address for each unit of cFlamer. If use SHOWVEN host controller or FXcommander to control the machine please allocate a unique DMX address for each unit of machine.

If control by 9-60V pyro signal, follow below steps:

a) Connect a power cable to the POWER IN socket of cFlamer. 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) Connect the power control cables to the 9-60V pyro signal connector on cFlamer.
c) Connect the other end of power control cables to the pyro controller (9-60V external trigger source), such as SHOWVEN PyroSlave series module. Before connect please make sure there is no pyro signal input.
d) Power on all cFlamer
e) Set the Ext Ignite to ON status in advanced interface, set the firing duration.
   NOTICE:
   The ventilation fan will on after cFlamer connect with power cable, no matter machine was power on or not.

## 7. Power ON the DMX console / Pyro controller and programming

Power on DMX console and program the cFlamer effect on DMX console or Pyro controller.

8. Test the ignition function of cFlamer

Test the ignition function of cFlamer, we can check whether the igniters of each unit of cFlamer is working fine. Due to the safety switch is stay at TEST MODE there will be only ignition while jet solenoid valve is not open, so no flames generated.

9. Firing

a) Double confirm the prescribed safety isolation zone is clear, no person, animal or other property within this region.
b) Switch the safety lock of cFlamer to USER MODE.
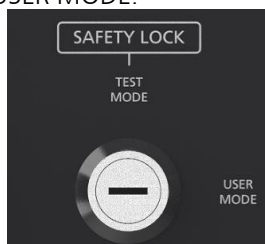
c) Firing, the operator should always have a clear view of the device, so that he/she can stop the show immediately when there is danger.
   NOTICE:
   Due to the pump and pipeline cleaning procedure after each show, there will be some water remains in the pipeline, so the first several shots may spray water and fail ignition. Even though please make sure no person, animals or other flammable articles stays in the safety isolation area when firing.

10. Depressurize and Power OFF

a) Depressurize the flame unit after show or not use flamer for a period of time
b) Power OFF DMX console
c) Press E-Stopper to power OFF all machine (if connect with E-stopper)
d) Switch safety lock of cFlamer to TEST MODE
e) Power OFF each unit of machine
f) Unplug power cable, DMX cable, E-Stopper connection cable etc.

11. Pump and pipeline cleaning

a) Collect all cFlamer, take the color fluid tank out and replace with water tank with no less than 2L purified water inside.

Water≥2L
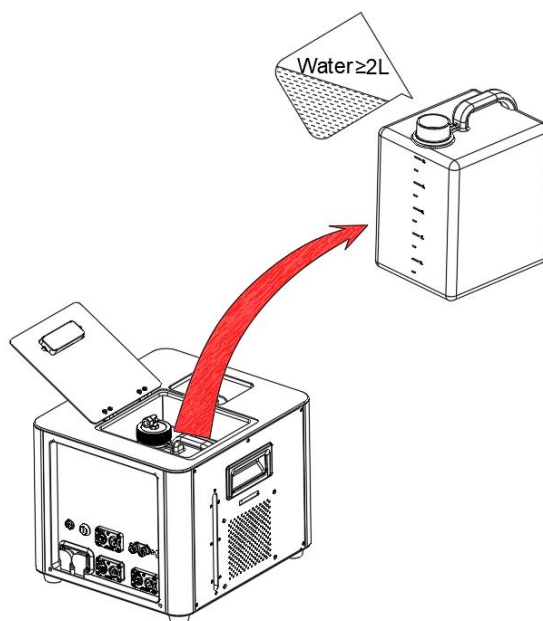
b) Connect with power and DMX cables, power on machine.
c) Pressurize and depressurize cFlamer 3 times.
d) Pressurize machine and firing 3 times with firing duration of 1s.
e) Pressurize and depressurize cFlamer 3 times again.
f) Emtpy the remaining water in fuel tank
    DANGER:
    Make sure there is no fuel inside fuel tank when make cleaning procedure, otherwise it may cause
    fire.
    WARNING:
    Pump and pipeline cleaning procedure is a mandatory operation after the machine is used, Not to
    do so will shorten the shelf life of cFlamer series product due to the corrosive of color fluid.
    WARNING:
    Before clean test, make sure there are sufficient purified water in the fuel tank. During the
    cleaning process, the flamethrower will spray a large amount of water, please ensure there is no
    non-waterproof objects or equipment around.
    NOTICE:
    Pump and pipeline cleaning procedure is also a necessory operation when use a different color on
    cFlamer series product, Not to do so will cause abnormal flame color due to the remaining fluid
    from previous firing.

12.   Clean and package machine

a) Clean the water on machine, wait until it dry
b) Package the machine after it is cool down

# ⚠ Nozzle Replacement and Igniter Position Adjustment

1. Nozzle Replacement

Use 14mm outer hexagon socket wrench (RMHDT134) to disassemble the nozzle, clean the nozzle and
nozzle socket with air gun (air compressor), change a new nozzle and install it.


250mm

14mm

310mm

2. Nozzle structure and assemble

Please assemble the stainless steel gasket, O-ring(blue) and nozzle as shown below. The O-ring should be inside the stainless steel gasket, otherwise it may cause fuel leakage from the nozzle.
Please use the nozzle replacement tool hexagon socket wrench to tighten the nozzle.
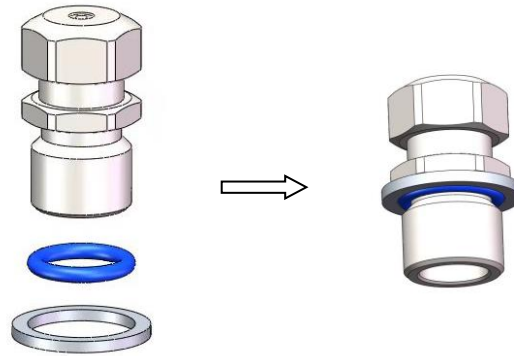
3. Igniter Position Adjustment

Whenever changed the nozzle or ignition is not good, please check igniter pole position according to below parameters. The right position for each pair of pole should have a gap from tip to tip of 2.5-3mm (b) and a gap between two igniter of 18mm (a). Check the ignition success rate after adjustment by firing.
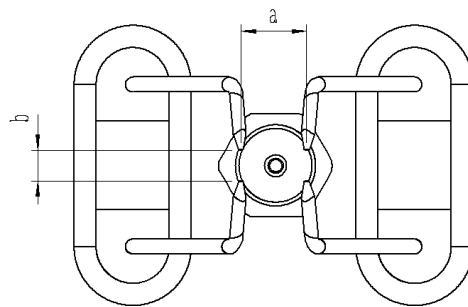
WARNING: Do unplug the power cable and power off the machine when service flamer.

⚠ Maintenance

1. Execute pump and pipeline cleaning procedure every time after use the machine to clean the pump and pipeline of machine.

2. To maintain the machine in good performance and running status, it is recommended to running the device at least once per month.

3. Check the ignition probes both before and after each show, if there is any foreign objects on it please clean it up.

4. Maintenance of the nozzle: Nozzle needs to be cleaned from time to time, and it is recommended that once every six months (depending on the environment and frequency of use). In the process of using the equipment, if the flame shape is seriously deformed or the fuel injection line is significantly deformed or coarsened, the nozzle should be removed immediately for cleaning. If after clean, there are still problems please replace new nozzle.

5. Maintenance of the O-ring: If it is found that the O-ring of the nozzle is damaged or ageing when cleaning the nozzle, the Fluorine rubber O-ring should be replaced in time.

△ Optional Parts for cFlamer

Part. No.	Description
SFSMA033	NOZZLE cH
RMSMA530	Stainless steel gasket
RMWAS112	O ring (blue), outer ϕ14, wire diameter is 2 mm
SFMET1107	G1-E-Stop connector
FPEST001	E-STOPPER
RMPCK344	Paper carton box for cFlamer
FPFLI076	2 in 1 High Quality Flightcase 860* 400* 370mm
RMPCK343	Flightcase carton box
RMBOT036	Safety loop
RMHDT134	Nozzle disassemble tool
RMEMD062	5-pin wireless DMX receiver (compatible with FXcommander 2.4GHz wireless DMX)

⚠ 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 unqualified fuels;

❱ 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®