USER MANUAL
uFlamer X-Gasboom

V1.1

2024/05/30

SHOWVEN Technologies Co., Ltd

Thanks for choosing SHOWVEN uFlamer X-Gasboom, 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 system.

⚠ 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 uFlamer Gasboom, 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 danger area. Ensure all persons that are part of the show be informed about the safety distance, risks and functions of the device.

\ Carry out necessary fire prevention and first aid measures based on the type, size and quantity of fuel used.

\ 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 aerosol, gas cartridges/bottles, otherwise, it is easily leads to failure or danger. Please keep those consumable bottles away from heat source, sparks, fire or other possibility of ignition. Do not smoke!

\ Before exchanging aerosol, gas cartridges/bottles or after each usage, please first shut off fuel supply, then empty the remaining fuel in the system (pipeline and gas hose) by activating the flamer several times until no flame is being generated.

\ 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.

\ 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。

Warning：

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.

▵ Technical Specifications

- **Model:** uFlamer X-Gasboom
- **Housing Material:** 304 stainless steel
- **Dimension:** 400×360×350mm
- **Weight:** 20kg
- **Input:** AC100-240V, 50/60Hz
- **Work Power:** 200W
- **Usage in Rain:** Yes
- **Battery / Standby Time:** 8 * 18650 cells, about 24h
- **Battery Charging:** Through power cable
- **Work Pressure Range:** 0-10Bar
- **Ignition:** Dual, high voltage electron ignition
- **Super Sensitive Flame Monitoring:** Yes
- **Solenoid Valves:** Dual, connect in series
- **Control:** DMX , 9-60V pyro signal, Wireless with Wireless DMX Receiver (5-PIN DMX IN with DC5V power supply)
- **DMX:** 3-pin and 5-pin DMX IN / OUT
- **E-Stop Interface:** Yes, can be connected in series
- **Effect Direction:** 180°（±90°）
- **Flame Height:** 2-8m (depends on nozzle type, firing duration, temperature etc.)
- **Firing Duration:** Adjustable
- **Preset Firing Sequences:** 83
- **Fuel:** Propane or Butane
- **Cartridge Holder:**

   Twin cartridge holder with 2 shut-off valves and 2 non-return valves, support 250g, 330g and 450g bottle
   Quadruple cartridge holder with 4 shut-off valves and 4 non-return valves (optional), support 250g and 330g bottle.
- **Cartridge Interface:** 7/16" UNEF
- **Micro Filter:** Yes, installed between shut-off and non-return valves
- **Tip sensor:** Yes
- **Audio bracket fixing hole:** Yes (Inner hole diameter φ36MM, inner hole height 62MM)

Warning:

When using external gas bottle, always be equipped with a pressure reducing valve, and the input pressure can not exceed 10 Bar.

△ Structure
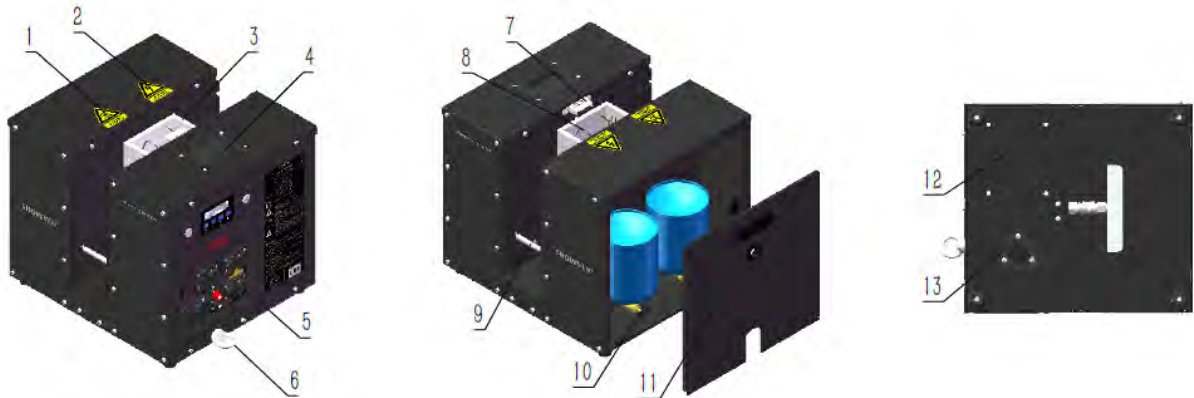
1. Hot surface warning icon
2. High voltage warning icon
3. Fire box
4. Handle
5. Rear panel
6. Safety loop
7. Flame detector
8. Igniter (dual)
9. Angle limit block bar (dual)
10. Cartridge holder
11. Side panel
12. Battery box
13. Audio bracket fixing hole

Cartridge holder for 2 (SFMET1063) support cartridge with outer diameter is less than or equal to φ110mm, and the height is less than 275mm.
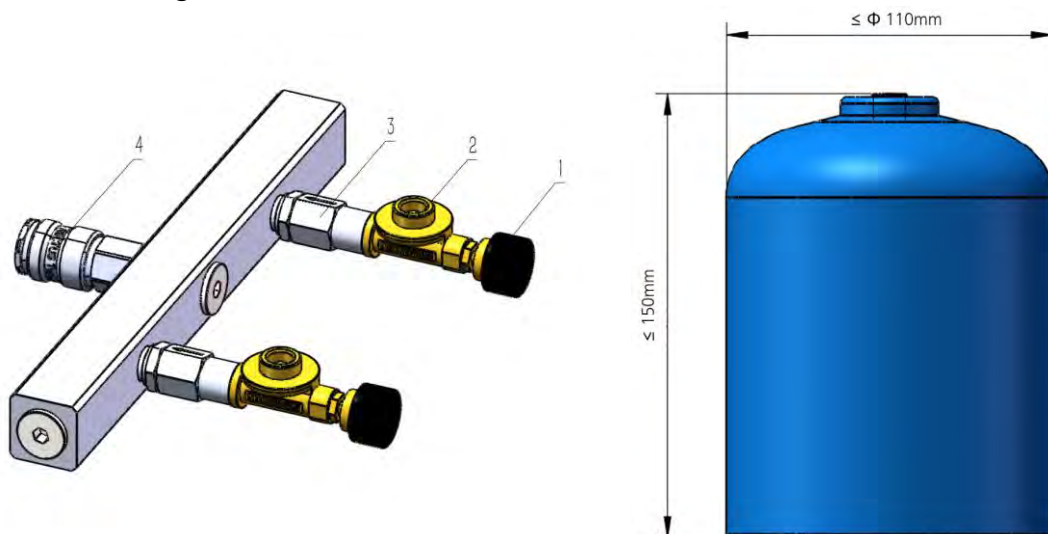
1. Shut-off valves switch
2. Cartridge Interface
3. non-return valve
4. Quick coupler

4

Cartridge holder for 4 (SFMET1108) support cartridge with outer diameter is less than or equal to φ66mm, and the height is less than 275mm.
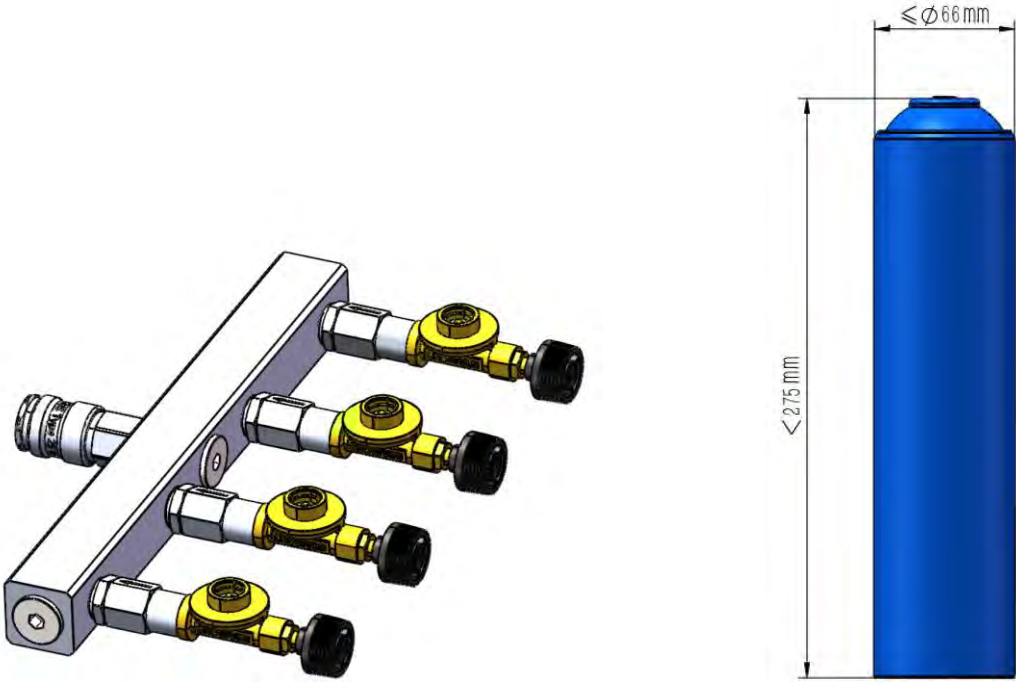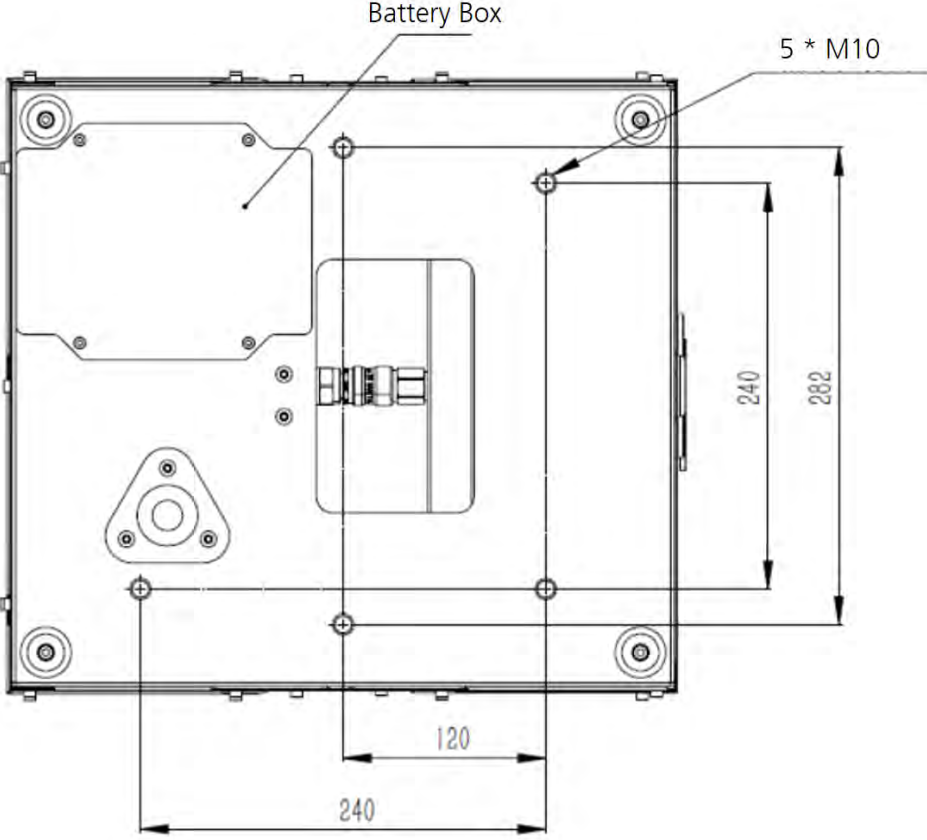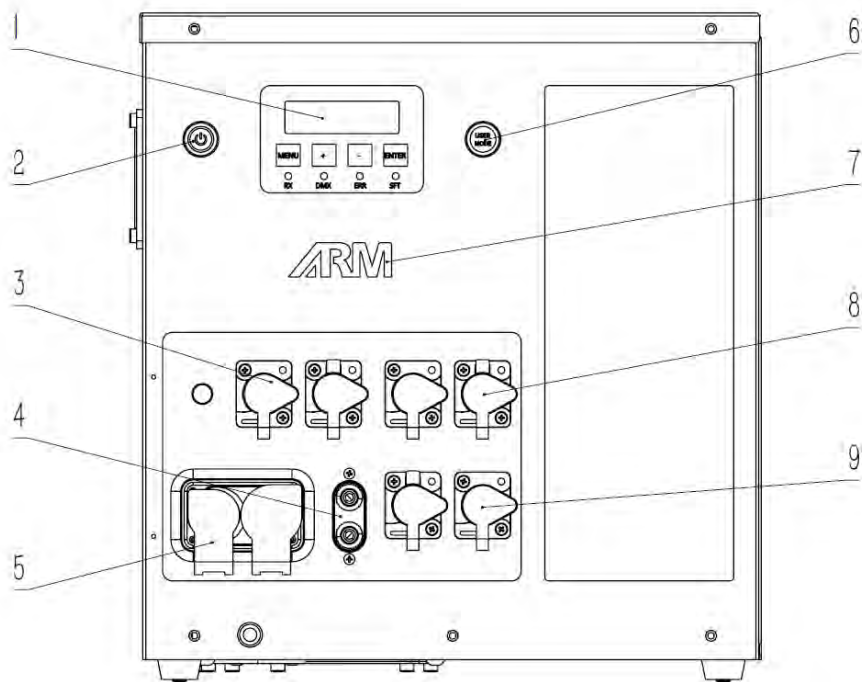

Diagram of bottom panel

△ Rear Panel

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

△ Display and setting
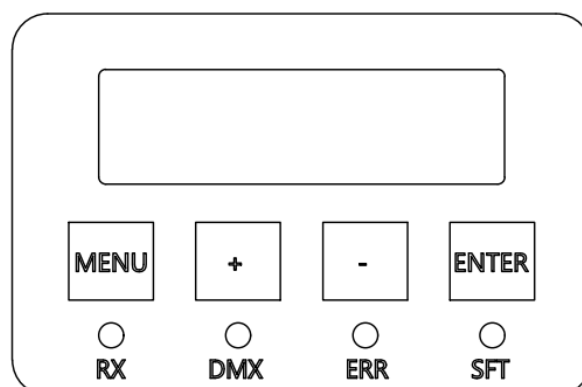
1. Display area

Indicator light	Explanation	ON	OFF	BLINK
RX	Power Input Indicator	AC Input	No AC Input	N/A

DMX	DMX signal	N/A	No DMX signal	DMX connected
ERR	Alert or Error message	Alert or Error	No	N/A
SFT	Not applicable			

2. **Button functions**
   MENU: Switch interface to setup parameter;
   +: Parameter Up
   -: Parameter Down
   ENTER: Confirm and save parameters (screen will flash once when parameters saved)
   Note: screen display will switch to main interface if there is no operation in 10s.

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:
   ON: no DMX signal
   OFF: DMX signal input
   BLINK: DMX armed or Ext Ignite in advanced menu is ON

4. **Power and Safety Mode Indicator Light**
   Power Indicator Light
   Light ON: Power ON
   Light OFF: Power OFF
   Safety Mode Indicator Light
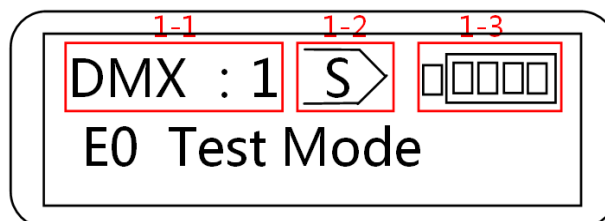   **Light ON:** User Mode
   Light OFF: Test Mode

5. **Welcome interface**

First Line: Product model and software version
Second Line: Equipment series number
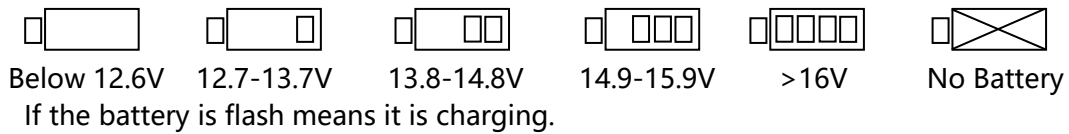
6. **Main interface**

First Line:
1-1: DMX address

1-2: Flame monitoring icon. Icon occurs if firing successfully. (set "Flame Monitor" to ON in advanced menu, otherwise no such icon)

1-3: Battery Icon shows the battery status:

Below 12.6V	12.7-13.7V	13.8-14.8V	14.9-15.9V	>16V	No Battery

If the battery is flash means it is charging.

Second Line:

Alert or error message alternatively display.

7. **Alert Message**

Alert Message	Why it appears	How to remove
E0 Test Mode	Safety Switch at TEST MODE	Switch to USER MODE
E0 Factory Mode	Factory mode	Switch to Normal mode
E0 ExtIgnite ON	Ext Ignite ON	Set Ext Ignite to OFF
E0 FireForb	"Fire Forbidden" is "ON"	Set "Fire Forbidden" to "OFF"
E0 Invert ON	"Invert" is "ON"	Set "Invert" to "OFF"
E0 MotorDis	"Motor Disabled" is "ON"	Set "Motor Disabled" to "OFF"

8. **Error Message**

Error Message	Why it appears	How to remove
E3 VoltageErr	Battery voltage abnormal	Charge or replace new battery
E4 Motor Err	Firing Nozzle position abnormal	Restart machine or set "Motor Err Swit" to "OFF"
E5 MissFire Exceeded	Consecutive ignition failures exceed the set value of "Fl Moni Fail Num" in advanced interface	Restart the machine
E6 Tip Err	Machine slant over 45° , it stops running	Tip setting set to OFF, or horizontal install machine.

9. **Main Menu**

Menu	Range	Default	Explanation
Set DMX Address	1~512	1	DMX address setup
Min Angle	NO.1~NO.4	NO.1	Set angle block
Max Angle	NO.4~NO.7	NO.7	

10. **Advanced Menu**

Press and hold "MENU" for 3s enter advanced interface, press "MENU" to switch interface, press and hold "MENU" 3s can back to main interface.

Items	Contents	Default	Description
Drive Test	Close		Close all drive test
	ARM LED		ARM indicator light ON 3 times, 0.5s per time

|			with 0.5s interval
	Igniter		Ignite 3 times, 1.5s per time with 0.5s interval
	Jet1 Valve		Jet valve open 3 times, 0.5s per time with 0.5s interval (test under USER MODE)
	Jet2 Valve		
	Motor Test		Nozzle wave from -90°~90°
	MotorRun Test1		Step test: NO.1~ NO.4
	MotorRun Test2		Step test: NO.4~ NO.7
	MotorRun Test3		Wave test: -90°~ 0°
	MotorRun Test4		Wave test: 0°~ 90°
	Batte Vol		Battery voltage
Ext Ignite	OFF / ON	OFF	Trigger through 9-60V pyro ignition signal
Set Ext Sequence	1~83	4	Preset sequence triggered by pyro signal. If set 83, trigger duration is the firing duration
Head to middle	ON/OFF	ON	When CH1 = 0, Nozzle will back to 0° position after firing
Invert	ON/OFF	OFF	When turned on, all angles will be mirrored.
Motor Disabled	ON/OFF	OFF	When ON, nozzle motor disabled, adjust nozzle position manual. (when turn ON this function please restart machine to activate)
Automatic Limit	ON/OFF	OFF	Device detect the firing angle block bar autpmtically when power on
Motor Err Swit	ON/OFF	OFF	ON: E4 will prompt when there is error of nozzle motor
Tip Setting	OFF / ON	ON	Turn ON/OFF tip over function
Flame Monitor	ON/OFF	OFF	Check the firing at 0° postion was success or not
Fl Moni Value	0.01V-3.30V	0.4V	Threshold value for a successful firing
Fl Moni Fai Num	0-10	2	Consecutive ignition failures setting
ARM State	ON/OFF	ON	ARM indicator light ON/OFF setting
语言 (Language)	English / Chinese	English	Language switch
DefaultParamete	ON/OFF	OFF	Reset default parameter settings

11. Monitoring Menu

Press "ENTER" to enter the monitoring menu, press "MENU" to switch between different monitoring items.

Menu	Explanation
Fire Voltage	Flame monitoring voltage value display
User Mode	User / Test mode switch button voltage value

DC Voltage	DC power supply voltage
BAT Voltage	Battery voltage
Fire Counts	Accumulative ignition times
Angle Diffe	Deviation between the actual firing angle and the expected angle

△ Firing Angles:

The firing angle for uFlamer X-Gasboom is from -90° to 90°, from the Audience Side view, there are altogether 7 firing positions as below.
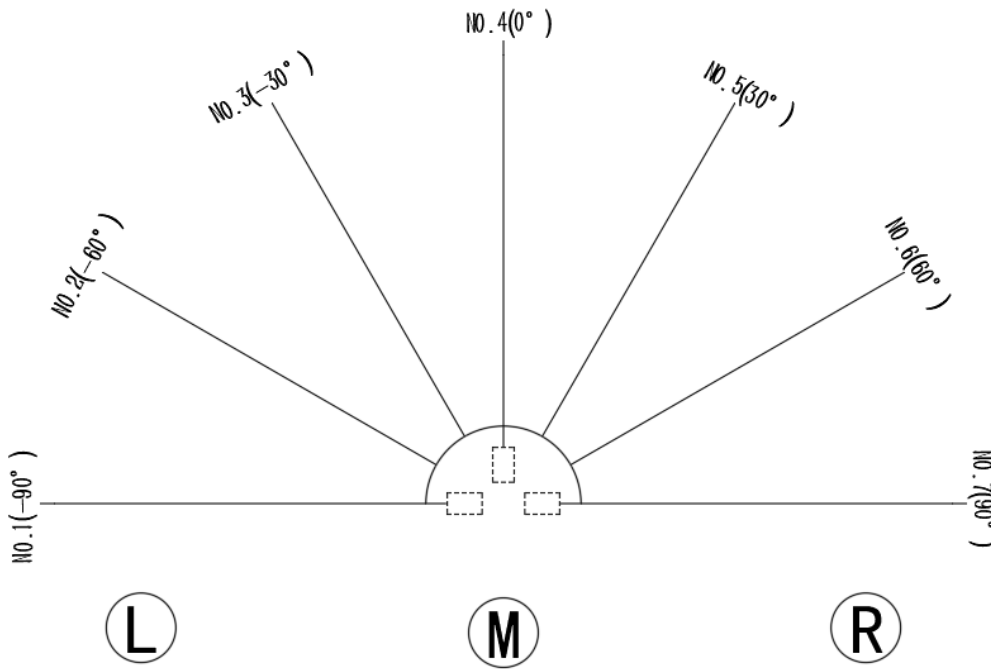
△ Preset Firing Sequences

uFlamer X-Gasboom has 83 preset sequences, operator use related channel 5 DMX value or sequence No. to access certain sequence. Below, you can find sequence list and single ignitions.

No.	Ignition angle	Description	Signle shot duration	Sequence Duration (For reference)	CH5 DMX Reference Value
1	-90°	Single Ignition SHORT flame	0.2s	0.29s	3-5
2	-60°	Single Ignition SHORT flame	0.2s	0.29s	6-7
3	-30°	Single Ignition SHORT flame	0.2s	0.29s	8-10
4	0°	Single Ignition SHORT flame	0.2s	0.29s	11-12
5	30°	Single Ignition SHORT flame	0.2s	0.29s	13-15
6	60°	Single Ignition SHORT flame	0.2s	0.29s	16-17
7	90°	Single Ignition SHORT flame	0.2s	0.29s	18-20
8	-90°	Single Ignition LONG flame	0.4s	0.60s	21-22

9	-60°	Single Ignition LONG flame	0.4s	0.60s	23-25
10	-30°	Single Ignition LONG flame	0.4s	0.60s	26-28
11	0°	Single Ignition LONG flame	0.4s	0.60s	29-30
12	30°	Single Ignition LONG flame	0.4s	0.60s	31-33
13	60°	Single Ignition LONG flame	0.4s	0.60s	34-35
14	90°	Single Ignition LONG flame	0.4s	0.60s	36-38
15	Step from 1-7	SHORT flame Step sequence	0.1s	2.05s	39-40
16	Step from 7-1	SHORT flame Step sequence	0.1s	2.05s	41-43
17	Step from 2-6	SHORT flame Step sequence	0.1s	1.47s	44-45
18	Step from 6-2	SHORT flame Step sequence	0.1s	1.47s	46-48
19	Step from 1-4	SHORT flame Step sequence	0.1s	1.17s	49-50
20	Step from 4-1	SHORT flame Step sequence	0.1s	1.17s	51-53
21	Step from 4-7	SHORT flame Step sequence	0.1s	1.17s	54-56
22	Step from 7-4	SHORT flame Step sequence	0.1s	1.17s	57-58
23	Step from 2-4	SHORT flame Step sequence	0.1s	0.88s	59-61
24	Step from 4-2	SHORT flame Step sequence	0.1s	0.88s	62-63
25	Step from 3-5	SHORT flame Step sequence	0.1s	0.88s	64-66
26	Step from 5-3	SHORT flame Step sequence	0.1s	0.88s	67-68
27	Step from 4-6	SHORT flame Step sequence	0.1s	0.88s	69-71
28	Step from 6-4	SHORT flame Step sequence	0.1s	0.88s	72-73
29	Step 2>6>3>5>4	SHORT flame Step sequence	0.1s	1.47s	74-76
30	Step 6>2>5>3>4	SHORT flame Step sequence	0.1s	1.47s	77-79
31	Step 4>3>5>2>6	SHORT flame Step sequence	0.1s	1.47s	80-81
32	Step 4>5>3>6>2	SHORT flame Step sequence	0.1s	1.47s	82-84
33	Step 2>4>6	SHORT flame Step sequence	0.1s	0.88s	85-86
34	Step 6>4>2	SHORT flame Step sequence	0.1s	0.88s	87-89
35	Step 3>5>4	SHORT flame Step sequence	0.1s	0.88s	90-91
36	Step 5>3>4	SHORT flame Step sequence	0.1s	0.88s	92-94
37	Step 4>2>6	SHORT flame Step sequence	0.1s	0.88s	95-96
38	Step 4>6>2	SHORT flame Step sequence	0.1s	0.88s	97-99
39	Step 2>6	SHORT flame Step sequence	0.1s	0.59s	100-101
40	Step 6>2	SHORT flame Step sequence	0.1s	0.59s	102-104
41	Step 3>5	SHORT flame Step sequence	0.1s	0.59s	105-107
42	Step 5>3	SHORT flame Step sequence	0.1s	0.59s	108-109
43	Step 1-7	LONG flame Step sequence	0.4s	4.19s	110-112
44	Step 7-1	LONG flame Step sequence	0.4s	4.19s	113-114
45	Step 2-6	LONG flame Step sequence	0.4s	3.00s	115-117
46	Step 6-2	LONG flame Step sequence	0.4s	3.00s	118-119
47	Step 1-4	LONG flame Step sequence	0.4s	2.40s	120-122

48	Step 4-1	LONG flame Step sequence	0.4s	2.40s	123-124
49	Step 4-7	LONG flame Step sequence	0.4s	2.40s	125-127
50	Step 7-4	LONG flame Step sequence	0.4s	2.40s	128-130
51	Step 2-4	LONG flame Step sequence	0.4s	1.80s	131-132
52	Step 4-2	LONG flame Step sequence	0.4s	1.80s	133-135
53	Step 3-5	LONG flame Step sequence	0.4s	1.80s	136-137
54	Step 5-3	LONG flame Step sequence	0.4s	1.80s	138-140
55	Step 4-6	LONG flame Step sequence	0.4s	1.80s	141-142
56	Step 6-4	LONG flame Step sequence	0.4s	1.80s	143-145
57	Step 2>6>3>5>4	LONG flame Step sequence	0.4s	3.00s	146-147
58	Step 6>2>5>3>4	LONG flame Step sequence	0.4s	3.00s	148-150
59	Step 4>3>5>2>6	LONG flame Step sequence	0.4s	3.00s	151-152
60	Step 4>5>3>6>2	LONG flame Step sequence	0.4s	3.00s	153-155
61	Step 2>4>6	LONG flame Step sequence	0.4s	1.80s	156-158
62	Step 6>4>2	LONG flame Step sequence	0.4s	1.80s	159-160
63	Step 3>5>4	LONG flame Step sequence	0.4s	1.80s	161-163
64	Step 5>3>4	LONG flame Step sequence	0.4s	1.80s	164-165
65	Step 4>2>6	LONG flame Step sequence	0.4s	1.80s	166-168
66	Step 4>6>2	LONG flame Step sequence	0.4s	1.80s	169-170
67	Step 2>6	LONG flame Step sequence	0.4s	1.20s	171-173
68	Step 6>2	LONG flame Step sequence	0.4s	1.20s	174-175
69	Step 3>5	LONG flame Step sequence	0.4s	1.20s	176-178
70	Step 5>3	LONG flame Step sequence	0.4s	1.20s	179-181
71	Wave 1-->7	Wave sequence	1.40s	2.68s	182-183
72	Wave 7-->1	Wave sequence	1.40s	2.68s	184-186
73	Wave 2-->6	Wave sequence	0.92s	1.84s	187-188
74	Wave 6-->2	Wave sequence	0.92s	1.84s	189-191
75	Wave 1-->4	Wave sequence	0.70s	1.53s	192-193
76	Wave 4-->1	Wave sequence	0.70s	1.30s	194-196
77	Wave 4-->7	Wave sequence	0.71s	1.30s	197-198
78	Wave 7-->4	Wave sequence	0.71s	1.53s	199-201
79	Wave 2-->4	Wave sequence	0.45s	1.07s	202-203
80	Wave 4-->2	Wave sequence	0.45s	0.92s	204-206
81	Wave 4-->6	Wave sequence	0.48s	0.92s	207-209
82	Wave 6-->4	Wave sequence	0.48s	1.07s	210-211
83	4(0°)	Single Ignition	max 30s		212-255

⚠ DMX CONTROL

uFlamer X-Gasboom occupies 6 channels.

Channel	Function	Value

CH1	Manual Angle setup	**0~255:** angle change from -90° to 90° **128:** straight upward (0°)
CH2	Manual Nozzle Waving Speed setup	**0 and 255:** Max Speed **1~254:** Speed increase
CH3	Firing ON/OFF	**0~253:** Firing OFF **254~255:** Firing ON
CH4	Firing Duration setup	**0 and 255:** permanent fire (30s is limit duration time) **1~254:** 10~2540ms duration time (Manual firing duration = DMX Value * 10ms)
CH5	Preset sequence setup	**0-2:** no preset sequence **3-255:** preset sequence DMX value = 2 + Sequence No.*2.55 (ROUND OFF)
CH6	Safety Channel	**0~49:** Firing Disable **50~200:** Firing Enable **201~255:** Firing Disable

Channel 1 (CH1): Manual Angle Setup

1. The first channel controls the firing angle when manual firing. It defines to which angle the nozzle of uFlamer X-Gasboom move to. The angle can be chosen anywhere between -90° to +90° (DMX value 0 to 255). It defines the firing nozzle stop position when use preset firing sequence.

2. The DMX value for angle of 0° is 127.5 (round up 128). Use this value, following formula can be used to calculate all other angles ∠ in degree. Please always note the prefix of the angle

$$DMX\ Value = 127.5 + (\angle*1.4167)$$

Some angles for reference:

Angle No.	Angle	DMX Value
NO.1	-90°	0
NO.2	-60°	42
NO.3	-30°	85
NO.4	0°	128
NO.5	30°	170
NO.6	60°	213
NO.7	90°	255

Channel 2 (CH2): Manual Nozzle Waving Speed Setup

CH2: Nozzle Waving Speed Setup			
DMX Value	0	1-254	255
Speed	Max Speed	Incremental of Speed	Max Speed

The second channel defines the nozzle waving speed when manual firing. It work together with Channel 1 for manual firing.

Channel 3 (CH3): Firing ON/OFF

CH3: Firing		
DMX Value	0-253	254-255

Firing Status	Firing OFF	Firing ON

The third channel activates the actual Firing. If the DMX value of this channel higher than 253, the uFlamer X-Gasboom will firing.

Channel 4 (CH4): Firing Duration setup

CH4: Manual Firing Duration setup							
DMX Value	0	1	2	3	4		254	255
Firing Duration	Permanent	10ms	20ms	30ms	40ms	......	2540ms	Permanent

The fourth channel is the firing duration setup
Below formula can be used to calculate the firing duration (ms):

$$DMX\ Value = t/10$$

Channel 5 (CH5): Program Sequence setup

The fifth Channel allows to firing a preset sequence. Three DMX values can be used for one of the programmed firing sequence from above sequence list (refer to above sequence list table). Below formula can be used to calculate firing sequence:

$$DMX\ Value = 2 + Sequence\ No.*2.55$$

CH5: Sequence List							
DMX Value	0~2	3~5	6~7	8~10	11~12	....	225-226
Sequence No.	N/A	1	2	3	4		88

Channel 6 (CH6): Safety Channel
The sixth channel is the safety channel, arm / disarm for firing.

CH6: Safety			
DMX Value	0-49	50-200	201-255
Safety	Firing Disable	Firing Enable	Firing Disable

⚠ Operation
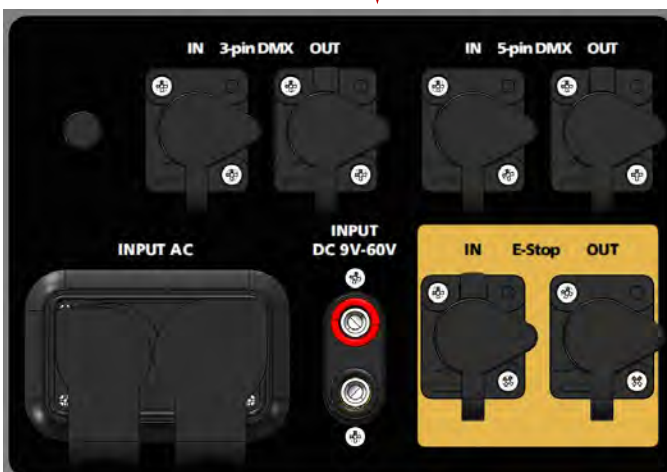
1. Safety explanation

1.1 Safety Icon

Please read safety explanation carefully before operating uFlamer Gasboom.

	WARNING: The firing box, ignition probes, flame detection cover and top cover are hot, do not touch.	
	WARNING: High voltage between ignition probes during operation, do not touch.	

1.2 Device Label

SHOWVEN®

uFlamer® X-Gasboom

AC 100V-240V 50/60Hz   200W

Showven Technologies Co.,Ltd.
Web: www.showven.cn
E-mail: info@showven.cn
Tel: +86-731-83833068
Add: No.1 Tengda Road,
Liuyang Economic & Technical Development Zone, 410300,
Changsha, Hunan, P.R.China

Read the manual carefully before use.

WARNING
Hazardous voltage inside, please do not remove the cover unless by trained personnel.

WARNING
People and flammable materials should keep a certain safety distance around the machine and in the firing direction. Check user manual for detail safety distance information.

CAUTION
Before exchanging aerosol, gas cartridges / bottles or after each usage, please first shut off fuel supply, then empty the remaining fuel in the system (pipeline and gas hose) by activating the flamer several times until no flame is being generated.

DMX CHANNELS

CH1: Manual Angle setup: (0~255) angle change from -90 ° to 90°, (128) is straight upward (0°)

CH2: Manual Speed setup: (0) Max Speed, (1~254) Speed increase, (255) Max Speed

CH3: Ignition ON/OFF: (0~253) Ignition OFF, (254~255) Ignition ON

CH4: Firing Duration setup: 0 and 255 is permanent fire (8s is limit duration time);
1~254 is 10~2540ms duration time
(Manual firing duration=DMX Value*10ms)

CH5: Program sequence setup: (0-2) no preset sequence; (3-255) preset sequence.DMX value=2+Sequence No.*2.55 (ROUND OFF)

CH6: Safety channel: (0~49)disabied (Emergency Stop), (50~200) enablede, (201~255) disabled (Emergency Stop)

MADE IN CHINA   CE   Serial Number
9 788087 049099

NOTICE:

The yellow area is E-Stop interface. The device enabled only when there is E-Stop terminal or E-Stopper connected the E-stop IN interface.

1.3 **E-Stop**

The E-Stop interface is power cut-off interface, and the device can be powered on normally only after the interface is connected.

E-Stop terminator (standard configuration, SFMET1107).

Put the E-Stop terminal in the E-Stop IN interface.

E-Stopper (optional, FPEST001).

E-Stopper connects with single unit of uFlamer X-Gasboom as below.

E-Stoper

E-Stopper connects with multi units of uFlamer X-Gasboom in daisy chain as below:

E-Stoper

NOTICE: E-Stopper can connect 24 units of uFlamer X-Gasboom in series maximum.

**NOTICE:** For more information about E-Stopper please check the E-Stopper manual.

Safety Distance

Safety distance for uFlamer X-Gasboom 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 a related with the firing height.

For safety distance at firing direction equals to maximum firing height + 2m.

uFlamer X-Gasboom with maximum $\pm 90°$ waving firing angles, when firing step sequence, or wave sequence the safety isolation zone is a three-dimensional sector area as below.
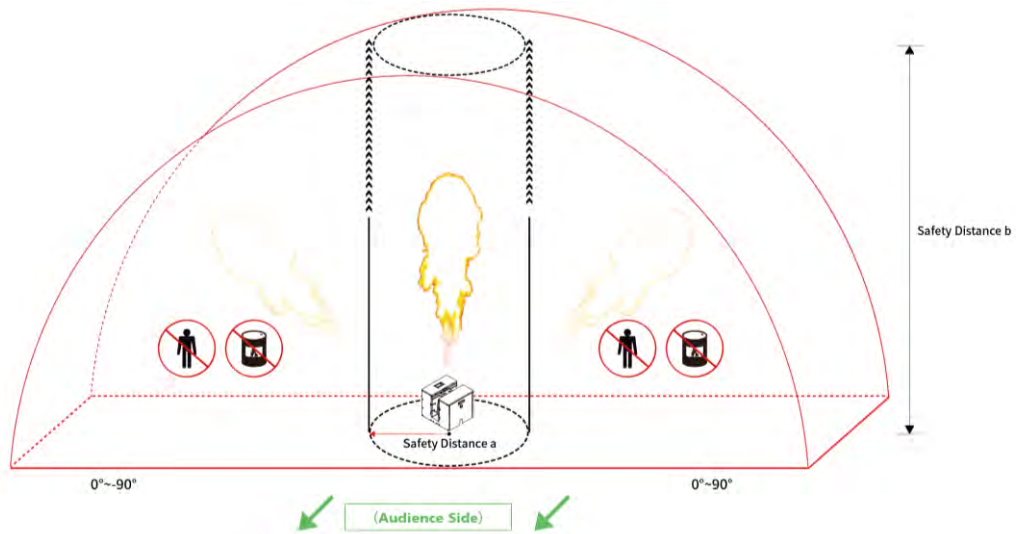
The safety distance a & b related with nozzle size, environment temperature, firing duration etc. We get below effect height and safety distance for your reference based on our test with two 450g gas cartridges and set firing duration at 0.2s. If necessary, please expand the safety distance according to the actual situation.

Nozzle G16, G20 and G25

Nozzle Type	Temperature	-10～0℃	0～10℃	10～30℃	30～40℃
G16	Effect Height (m)	1.5～2.5	2.5～3.0	3.0～3.5	2.5～3.0
	Safety Radius a (m)	2	2.5	2.5	2.5
	Safety Distance b (m)	4.5	5.0	5.5	5.0
G20	Effect Height (m)	2.0～3.0	3.0～3.5	3.5～4.0	3.0～3.5
	Safety Radius a (m)	2.5	2.5	2.5	2.5
	Safety Distance b (m)	5.0	5.5	6.0	5.5
G25	Effect Height (m)	2.5～3.5	3.5～4.0	4.0～4.5	3.5～4.0
	Safety Radius a (m)	2.5	2.5	3.0	2.5
	Safety Distance b (m)	5.5	6.0	6.5	6.0

Nozzle GA

Nozzle GA can be used with gas cartridge, and it is only suitable for 10℃~40℃.

Nozzle Type	Temperature	10～15℃	15～30℃	30～40℃
GA	Effect Height (m)	4.5～7.0	5.5～8.0	4.5～7.0
	Safety Distance a (m)	4.0	4.0	4.0
	Safety Distance b (m)	9.0	10.0	9.0

WARNING: Forbidden to use Nozzle GA with gas cartridge when temperature is lower than 10℃.

2. **Battery for uFlamer X-Gasboom**

uFlamer Gasboom can be powered through 8 pcs of 18650 cells. New X-Gasboom come only with battery compartment, customer need to get 18650 cells locally. The battery we suggest to use is with flat head as below:
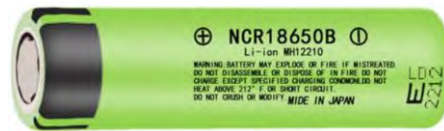
The battery installation steps:

a) Unscrew the screws of the battery box at the bottom panel as below.
b) Install the battery in correct direction, pay attention to the positive and negative pole. Wrong installation will damage the battery box or even machine.
c) Press and hold the reset button (as show in the red circle below) for 1s to activate battery.
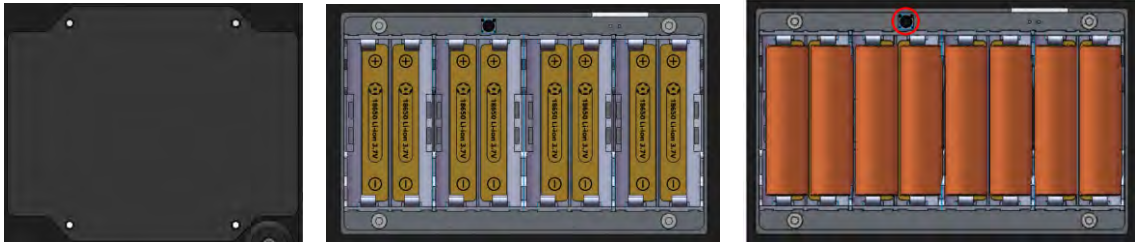
d) Install back the battery box plate.
e) Charging: charging automatically when machine connected with AC power supply (no matter machine was powered on or not)

**NOTICE:** To avoid the damage of battery, charge the battery at least once per month.

NOTICE: 18650 battery activation is necessary whenever install the battery

3. **Install gas cartridges for X-Gasboom**

a) Before install gas cartridges please confirm safety switch stays at TEST MODE. When safety button is pressed down, it is USER MODE; when it pops up, it is TEST MODE.
b) Disassemble the side plate. Close the shut-off valves on cartridge holder. Rotate the knob clockwise to the end position to close the shut-off valve.

c) Pull out the cartridge holder through the hole at the bottom of machine. The cartridge holder and machine are connected with quick coupler as below, pull out the quick coupler connection to disassemble the cartridge holder.
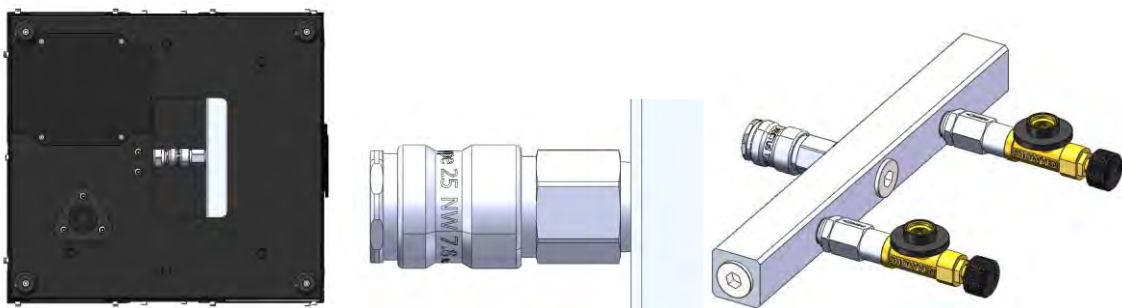
d) Screw the gas cartridge to cartridge holder tightly.
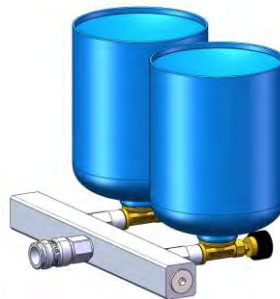
e) Install cartridge holder with gas cartridge back to the machine, open the shut-off valve by rotate the knob anti-clockwise to the end position. Install the side panel.
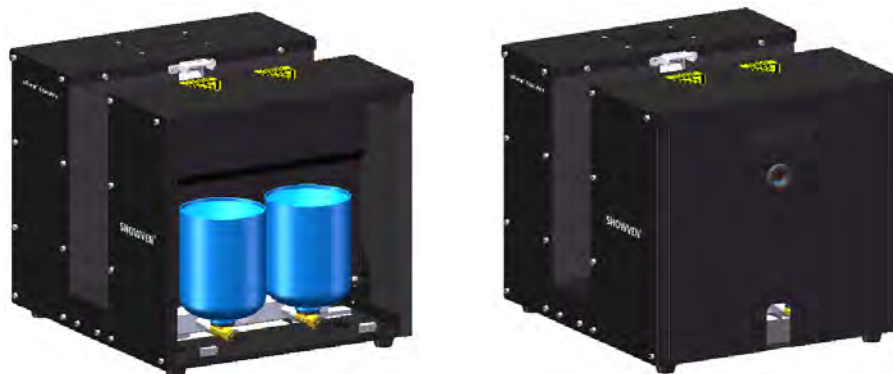
If use cassette gas cylinder

For cassette gas cylinder, an adaptor (RMMET467) as below was need.
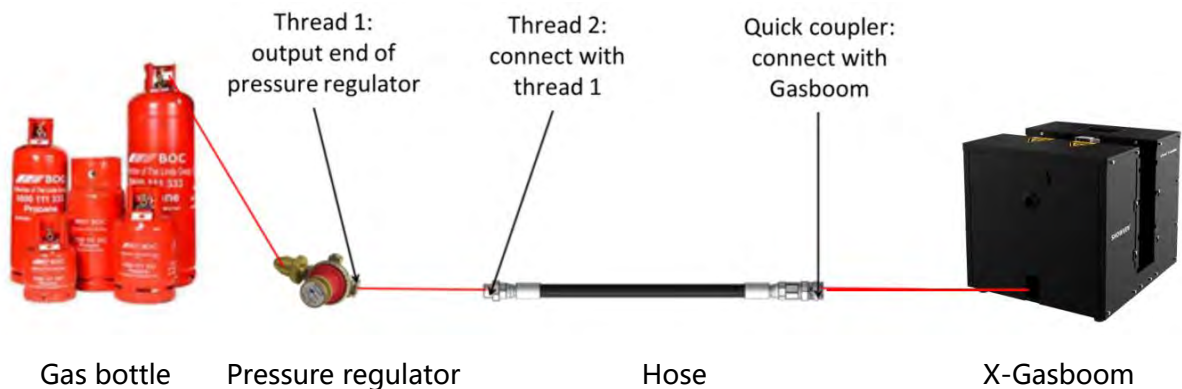
| Cassette gas cylinder | Adaptor | Installation |

If use gas bottle

Disassemble the cartridge holder if use gas bottle to supply the gas for Gasboom. And hose was needed to connect between gas bottle and Gasboom.

Thread 1: output end of pressure regulator   Thread 2: connect with thread 1   Quick coupler: connect with Gasboom

| Gas bottle | Pressure regulator | Hose | X-Gasboom |

NOTE:

1) Please choose appropriate gas bottle according to your use.
2) Please prepare the pressure regulator by yourself.
   Pressure regulator for liquefied gas and gaseous gas are different, please select appropriate pressure regulator.
   The pressure regulator output pressure range is 0-10Bar;
   Send the thread size of the output end of pressure regulator (Thread 1) to us before your order the hose from us. So that we can supply you the compatible hose with correct thread 2 sizes.
3) Hose is optional part (SFMET1136), our standard hose length is 5m, other lengths are customizable.

WARNING: Do not misuse the pressure regulator between liquefied gas and gaseous gas.

WARNING: When use the gas bottle, it is mandatory to use a pressure regulator and the maximum output pressure must not be higher than 10.0 bar. The usage of gas bottles without pressure regulator is an extreme accident hazard and is strictly prohibited.

4. **Install uFlamer X-Gasboom**

   a) Horizontal installation is preferred for uFlamer X-Gasboom.
   b) If X-Gasboom gas supply via hose connection from gas bottle, X-Gasboom can be installed in any direction even upside down. But the flame height will be affect in angled installation.

c) 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.

d) Double confirm the machine was firmly installed.

**NOTICE:** For angled installation with angles >45°, please turn off the TIP sensor.

5. **Connecting uFlamer X-Gasboom**

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 uFlamer X-Gasboom, 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 uFlamer X-Gasboom, 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 uFlamer X-Gasboom. 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. (Forget this step if it is battery powered)

e) Each unit of uFlamer Gasboom can be connected to power supply directly. 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. Do not connect exceed units to a single electrical circuit. (Forget this step if it is battery powered)

f) Connect machine with E-stop terminal or E-Stopper.

g) Power on all uFlamer X-Gasboom. Check the safety button, double confirm it stays at "TEST MODE".
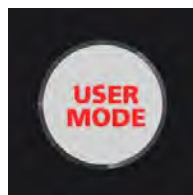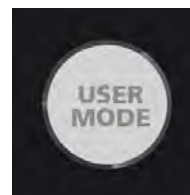
USER MODE   TEST MODE

h) Assign DMX address for each unit of uFlamer X-Gasboom. 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 uFlamer X-Gasboom. 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. (Forget this step if it is battery powered)

b) Each unit of uFlamer X-Gasboom can be connected to power supply directly. 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. Do not connect exceed units to a single electrical circuit. (Forget this step if it is battery powered)

c) Connect the power control cables to the 9-60V pyro signal connector on uFlamer X-Gasboom.

d) Connect the other end of power control cables to the pyro controller (9-60V external trigger source), such as SHOWVEN PyroSlave.

e) Connect machine with E-stop terminal or E-Stopper.

f) Power on all uFlamer X-Gasboom, Check the safety button, double confirm it stays at "TEST MODE".

g) Set the Ext Ignite to ON status in advanced interface, set the firing duration.

**6. Power ON the DMX console/Pyro controller and programming**

Power on DMX console and program the uFlamer X-Gasboom effect on DMX console

7. Test the ignition function of uFlamer X-Gasboom

Test the ignition function of machine, we can check whether the igniters of each unit of machine 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.

8. Firing

a) Double confirm the prescribed safety isolation zone is clear, no person, animal or other property within this region.

b) Switch the safety button of uFlamer X-Gasboom to USER MODE.
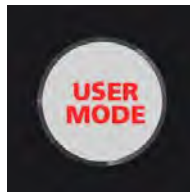
c) Firing, the operator should always have a clear view of the device, so that he/she can stop the show immediately when there is danger.

9. Power OFF and close the shut-off valve

a) Power OFF DMX console

b) Press E-Stopper to cut off power of all machine

c) Close the shut-off valve for each machine

d) Disassemble all gas cartridges on cartridge holder.

10.   **Empty the remaining fuels and package machine**
   a) Release the E-Stopper allow machine to be power on again, firing machine several times until no flame is being generated
   b) Switch safety switch of uFlamer X-Gasboom to TEST MODE
   c) Power OFF uFlamer X-Gasboom
   d) Unplug power cable, DMX cable, E-Stopper connection cable etc.
   e) Package the machine after it is cool down

△ Nozzles and Nozzle Replacement

1.   Nozzles

There are four types of Nozzle for uFlamer X-Gasboom.G16, G20 (standard configuration), G25, GA. The related firing height and safety distance please check previous content of this manual.

WARNING: Forbid to operate uFlamer Gasboom without nozzle, it will cause accidental flame.

WARNING: According to the site environment and condition, please choose appropriate type of nozzle.

WARNING: Forbidden to use Nozzle GA with gas cartridge when temperature is lower than 10℃.

WARNING: Forbidden to install uFlamer X-Gasboom in tilt position when use Nozzle GA.

DANGER: Do NOT use parts or components which are not originally from SHOWVEN.

NOTICE: When the device is placed or transported without packaging, please use adhesive tape to cover the nozzle to prevent foreign matter from entering.

2.   Fuel Consumption

Below testing result is based on two 450g gas cartridges as show in above picture, and firing duration is 0.2s, environment temperature is 30℃.

| Nozzle type	G16	G20	G25	GA
0.2s flame ball quantity	Approx. 350	Approx. 270	Approx. 200	Approx. 110

3. Nozzle Replacement

Use 19mm outer hexagon socket wrench (RMHDT130) to disassemble the nozzle, clean the nozzle and nozzle socket with air gun (air compressor), change a different nozzle and install it.

WARNING: Do unplug the power cable and power off machine when service flamer.

⚠ 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 and a gap between two igniter of 52±1mm. Check the ignition success rate after adjustment by firing.
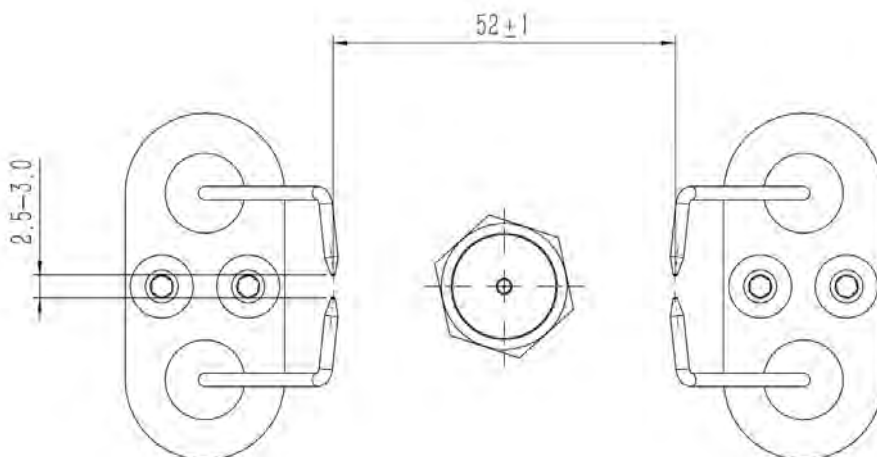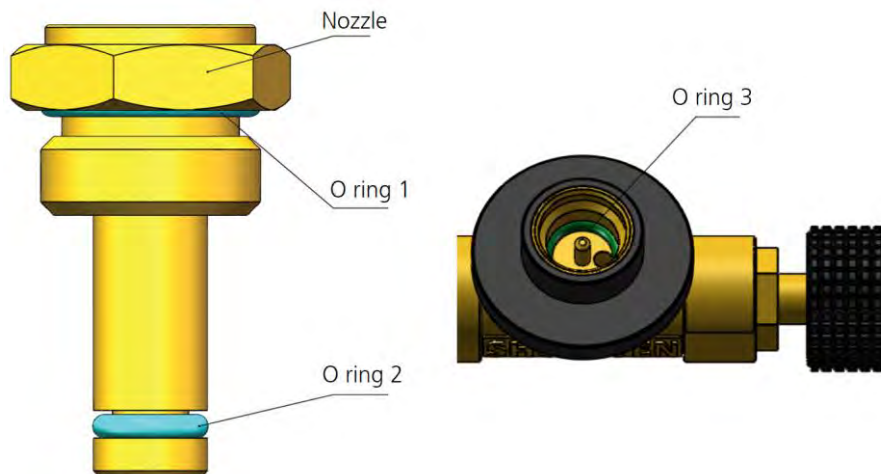
⚠ Maintenance

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

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

3. Shut-off valve maintenance: make sure no impurities in the gas cartridge and cartridge holder connection part. If the machine not use for a long time, it is recommended to use tape to seal this part and store it.

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 O-ring should be replaced in time.

   O ring 1: Inner diameter 13.2mm X wire diameter 1.8mm
   O ring 2: Inner diameter 5.15mm X wire diameter 1.8mm
   O ring 3: Inner diameter 8.2mm X wire diameter 1.9mm

6. Flame detector maintenance: Recommended to clean the carbon buildup on flame detector at least once per month (depending on the use environment and frequency), if the detector is found to be insensitive, clean it immediately.
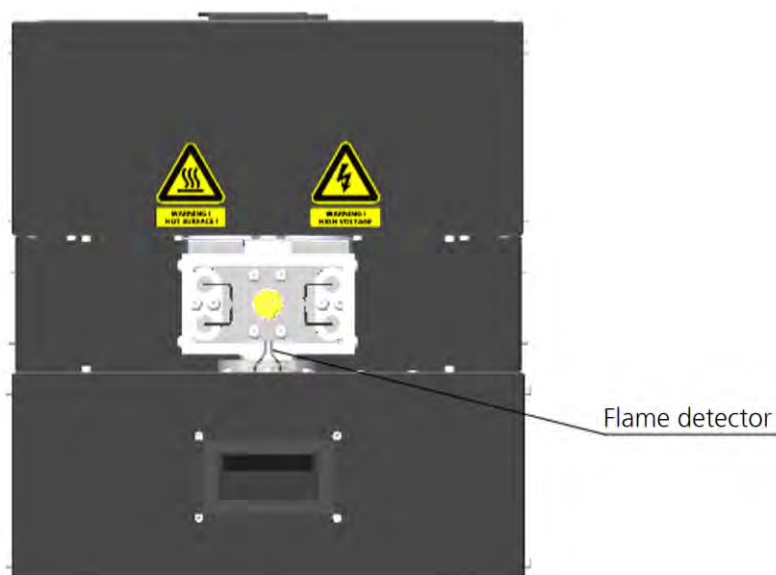
△ Optional Parts for uFlamer Gasboom

Part. No.	Description	pcs / unit
RMWAS070	G1 O ring 13.2*1.8	1
RMWAS065	G1 O ring 5.15*1.8	
RMBOT036	Safety ring	1
RMMET045	Safety rope	1
RMEMD062	Wireless receiver (for wireless control with FXcommander)	1
SFSMA012	Nozzle G20	1
SFSMA011	Nozzle G16	1
SFSMA013	Nozzle G25	1
SFSMA015	Nozzle GA	1
SFMET1063	Twin cartridge holder	1
SFMET1108	Quadruple cartridge holder	1
RMMET483	Cassette gas cartridge Adapter	2 or 4
SFMET1107	G1 E-Stop terminator	1
FPEST001	E-Stopper	1
RMHDT120	Nozzle disassemble tool 19mm	1
RMMET516	G1-Anti-static battery disassembly spudger	
SFMET1136	hose, 5m	1
RMSMA460	Quick coupler (female, external thread, R3/8)	1
FPFLI042	2 in 1 flight case	1/2
SFCAB065	Waterproof DMX cable, 6m	1
SFCAB204	Waterproof DMX cable, 10m	1

⚠ **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 aerosol, gas cartridges/bottles;

⟍ 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

ASK US FOR YOUR PROFESSIONAL PRICES!

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