SHOWVEN®

USER MANUAL
uFlamer Volcano

V2.1
2024/06

Showven Technologies Co., Ltd.

⚠ Foreword

Thanks for choosing SHOWVEN uFlamer Volcano, we wish it will bring you lots of exciting moments. Please read following manual carefully and completely before operating this product. Operate according to instructions is very important for safety, and can elongate the service life of the machine.
Strictly follow the instruction in the manual when operate uFlamer Volcano. If you have any doubts, please contact SHOWVEN technologies Co., Ltd by info@showven.cn.
We assume the person who use or come in contact with the device are familiar with how the device should be handled. This includes proper use, maintenance and repair of the machine as defined in this user manual.

⚠ Warning

\ This product is only suitable for qualified or skilled operators who has experience with the technology of the device and is particularly informed about the types of fuel used by the device.

\ 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

\ Before connect the power cable, communication DMX cable should well connected and ensure the command keep at firing OFF status. And safety lock of uFlamer Volcano stay at TEST MODE.

\ Before power on the machine, please check carefully the safety distance and make sure it meets the requirements in this manual.

\ The device can only be placed horizontally.

\ 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

\ 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.

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

\ The operator responsible for the control of uFlamer Volcano 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

⚠ Disclaimers

SHOWVEN technologies Co., Ltd excludes liability for unsafe situations, accidents and damages resulting from:
1. Ignoring warnings or regulations as shown on flamer or this manual.
2. Use for other applications or circumstances other than those indicated herein.
3. Changes to the flamer, including use of non-original spare parts.
4. Removed safety cover without authorization from SHOWVEN.
5. Use this machine by unqualified or untrained personnel.
6. Improper use of machine.

△ Functional Characteristics

\ 5-heads liquid flamer, independent control of each head, flames up to 10m
\ Internal pump, plug and play system
\ 25L built-in stainless steel fuel tank, real-time fuel level display, support automatic refueling station
\ Safety switch key safer for service
\ Integrated valve block design, premium and independent jet valve, safe and reliable
\ Reinforced stainless steel housing
\ Customized water-proof igniter and rain-proof structure design, can be used in rainy day
\ DMX control, with both 3-pin and 5-pin XLR port
\ Compatible with 9-60V pyro signal

△ Technical Specifications

\ **DIMENSION:** 630 x 450x 400mm
\ **HOUSING MATERIAL:** 304 STAINLESS STEEL
\ **WEIGHT:** 48Kg
\ **WORK POWER:** 2000W
\ **INPUT:**100-120V & 200-240V, 50/60Hz
\ **FLAMER HEIGHT:** 8-10m
\ **FLAME ANGLES:** 5 directions
\ **FUEL:** ISOPAR, ISOPROPANOL
\ **FUEL TANK CAPACITY:** 25L
\ **FUEL CONSUMPTION:** 60ml/s(M), 30ml/s(L), 15ml/s(EL) per nozzle
\ **WORK TEMP.:** -20 ℃ to 50 ℃
\ **INTERFACE:** SEETRONIC 3-PIN & 5-PIN XLR
　　　　　　　NEUTRIK PowerCON TRUE1
\ **IGNITION:** High voltage electron ignition
\ **CONTROL:** DMX, 9-60V PYRO SIGNAL
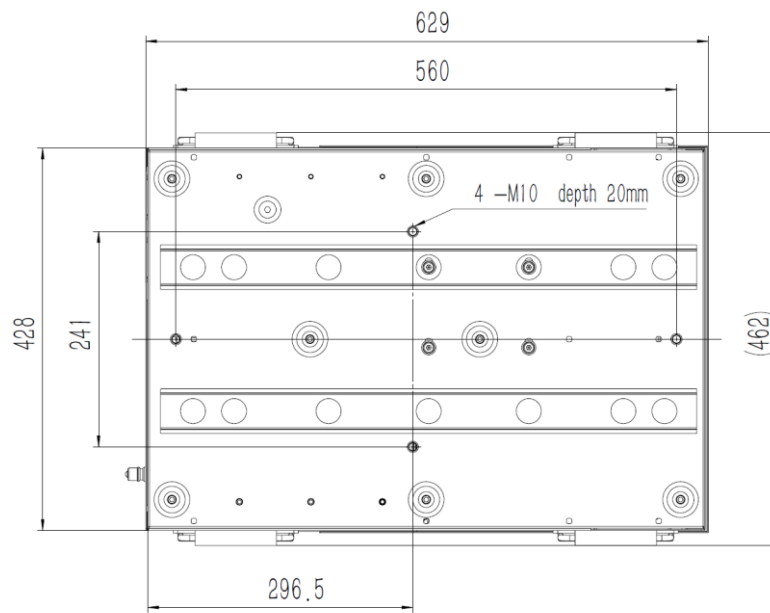\ **USAGE IN RAIN:** YES

△ Structure of uFlamer Volcano
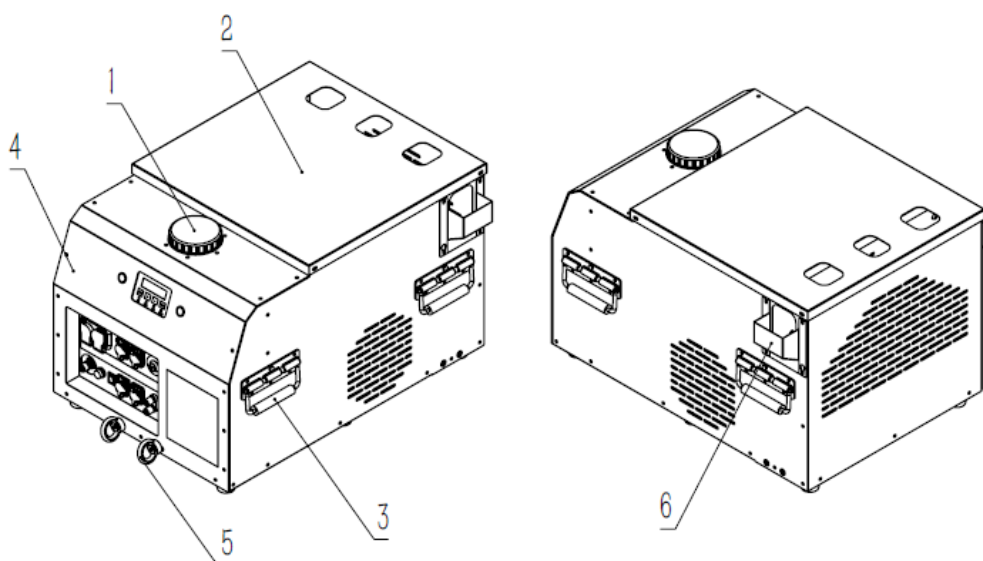
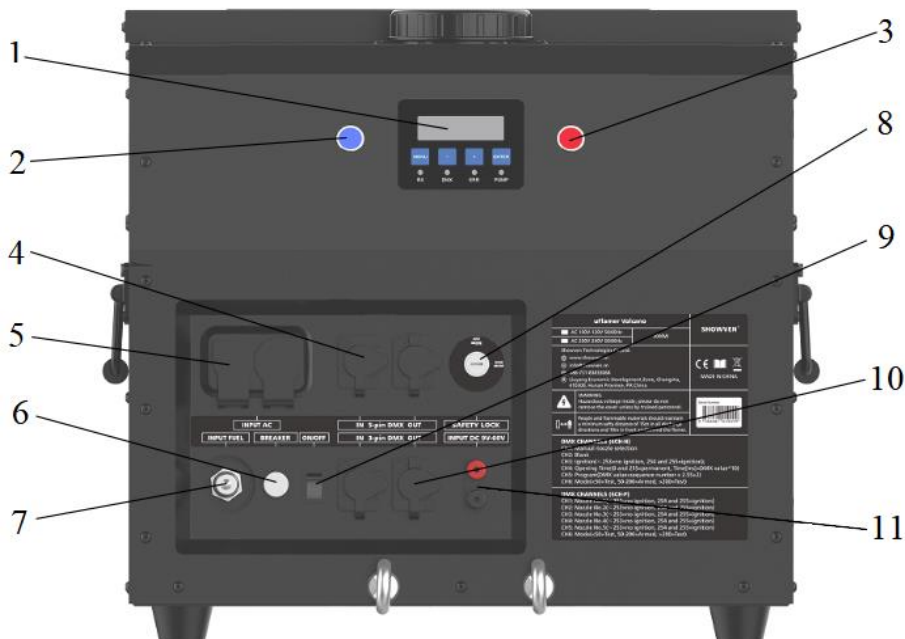|		
1. Fuel Tank Lid	2. Top Panel	3. Handle
4. Control Pane	5. Safety Loop	6. Wind shield

Overview of bottom panel

Overview of Control Panel

1. LCD screen operate panel

2. Pressure indicator (Blue LED)

3. Safety indicator (Red LED)

4. 5-pin DMX socket (5-PIN XLR IN can charge for wireless DMX pen through pin1 and 4, pin4 with DC5V power supply)

5. 110V/220V Power Socket

6. Auto-reset Fuse

7. Fuel Input Quick Coupler (G1/4, ISO7241B) (NOTE: external fuel input pressure < 0.8MPa)

8. Safety Lock

9. ON/OFF Switch

10. 3-pin XLR Socket

11. DC 9V-60V pyro igniter signal port

△ Operation Panel
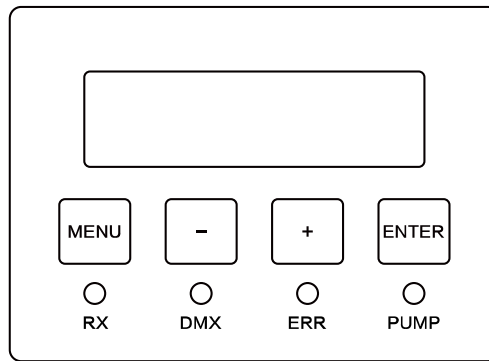
1. LED Display Area:

RX: Radio receiving (reserved)
DMX: DMX signal. Flash means DMX signal available, otherwise no DMX signal
ERR: Light on when there is an error
PUMP: Light on when pump is running

2. Button Functions:

MENU: Switch interface to setup parameter;
+: Parameter Up
-: Parameter Down
ENTER: Confirm and save parameters (screen will flash when parameters saved)
Note: screen display will switch to main interface if not press button in 10s.

3. Welcome Interface:

Volcano202004
F5-01207005

First Line: Product model and software version
Second Line: Equipment series number

4. Main Interface:

DMX: 1 M: 6CH-P
P: 100   L: 50%
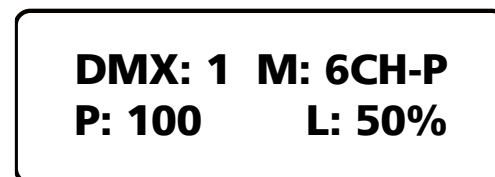
First Line
DMX: DMX address 1(value from 1-512);
M: Channel Mode 6CH-P
    6CH-P: professional channel mode;
    6CH-N: normal channel mode
    6CH-S: safety channel mode

Second Line
P: Pressure Value 100 (100=10bar)
L: Liquid level 50%

5. 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 Invert On	Invert function ON	Set Invert to OFF
E0Prim Valve ON	Prime Valve ON	Fuel level reached PV Off Fuel Level, Prime Valve will OFF automatically.
E0 FireForbidden	Fire Forbidden ON	Set Fire Forbidden to OFF
E0 ExtIgnite ON	Ext Ignite ON	Set Ext Ignite to OFF

6. Error Message:

Error Message	Why it appears	Reason / How to remove
E1 Pressure Err	After 10s pressurize, pressure value failed to reach target value	No fuel, pump failure, pipeline leakage etc reason, please check accordingly
E2 P Relief Err	After 6s depressurize, pressure value ≥ 1/3 of target value	pressure relief valve failure
E6 Tip Err	Machine slant over 45°	Tip setting set to OFF, or horizontal install machine.
E7 Low Fuel	Fuel level low	Fill the tank

7. Interface setup:

Press "MENU" to switch through setup menu, press and hold "MENU" 3s back to main interface.

| DMX Channel Mode	Menu	Range	Explanation
6CH-N / 6CH-P	Set DMX Address	1~507	DMX address setup
6CH-S	Fire Address	1~507	Fire address setup
	Safety Address	1~512	Safety address setup

8. Advanced Interface:

Press "MENU" 3s enters advanced interface, press "MENU" to switch interface, press "MENU" 3s can back to main interface. The value in bold character is default value.

Menu	Contents	Explanation
Drive Test	OFF / Pump / Igniter / Relief Valve / Prime Valve / Jet Valve 1-5	
	Pump	Pump running 1s, if pressure reached the target value, the pump will not running. Keep safety Lock located at USER MODE before test.
	Igniter	Ignition from head No.1 to 5
	Relief Valve	Relief valve will be on and off 3 times
	Priming Valve	Priming Valve will on and off 3 times
	Jet Valve 1	6s after Relief Valve was on, related Jet Valve will on and off 3 times. Keep safety Lock located at USER MODE before test.
	Jet Valve 2	
	Jet Valve 3	
	Jet Valve 4	
	Jet Valve 5	
Ext Ignite	**OFF** / ON	Trigger through 9-60V ExtIgnite signal (such as fireworks ignitor signal) ON/OFF switch. Firing all 5 heads.
Ext Ignite Time	0.1-2.0s (**0.5s**)	Firing time setup when activated through Ext Ignite signal
Language	**English** / Chinese	Language switch
Mode Select	**Normal Mode** / Factory Mode	Factory mode is for test in factory only
Tip setting	**ON** / OFF	Turn ON/OFF tip over function

DMX channel mode	**6CH Normal Mode** / 6CH Pro Mode/ 6CH Safe Mode	DMX channel mode switch, detail info please check DMX control
Default Parameter	**OFF** / ON	Reset default parameter settings
Invert	**OFF** / ON	When turned on, all angles will be mirrored.
Fuel Input	**OFF** / ON	When ON, operators can fuel machine through Fuel Input Quick Coupler
PV ON Fuel level	0-80% (default **20%**)	When fuel level lower than set value, prime valve will turn on automatically.
PV Off Fuel Level	10%-100% (default **100%**)	When fuel level reached set value, prime valve will turn off automatically
PV EMER OPEN	**OFF** / ON	ON: Turn on the Priming Valve for 5s
Current Voltage	12V	Mainboard power supply voltage display

⚠ Firing Angles:

Below schematic shows 5 firing angles of uFlamer Volcano from Audience Side view.
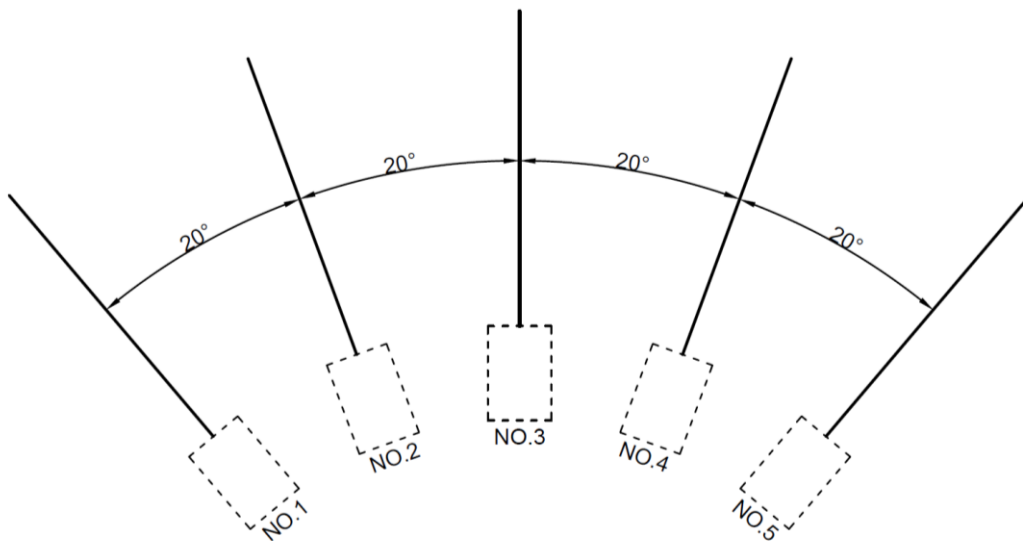
⚠ uFlamer Volcano Firing Sequences

uFlamer Volcano with more than 97 preset firing sequences. Operator use related channel DMX value or sequence No. to access certain sequence. Sequence list as below:

Single Ignition Sequence List

Sequence No.	Ignition head No.	Description	Flame Activity	Sequence Duration	CH5 DMX Reference Value
1	1	Single ignition SHORT flame	Static	0.1s	3-5
2	2	Single ignition SHORT flame	Static	0.1s	6-7
3	3	Single ignition SHORT flame	Static	0.1s	8-10
4	4	Single ignition SHORT flame	Static	0.1s	11-12
5	5	Single ignition SHORT flame	Static	0.1s	13-15
6	1	Single ignition LONG flame	Static	0.28s	16-17

7	2	Single ignition LONG flame	Static	0.28s	18-20
8	3	Single ignition LONG flame	Static	0.28s	21-22
9	4	Single ignition LONG flame	Static	0.28s	23-25
10	5	Single ignition LONG flame	Static	0.28s	26-28

Step Sequences List

Sequence No.	Ignition head No.	Description	Flame Activity	Sequence Duration	CH5 DMX Reference Value
11	Step 1-5	SHORT flame Step sequence	L -> R	0.54s	29-30
12	Step 5-1	SHORT flame Step sequence	R -> L	0.54s	31-33
13	Step 1>3>5>2>4	SHORT flame Step sequence	L>M>R>L>R	0.54s	34-35
14	Step 5>3>1>4>2	SHORT flame Step sequence	R>M>L>R>L	0.54s	36-38
15	Step 1>5>2>3>4	SHORT flame Step sequence	L>R>L>M>R	0.54s	39-40
16	Step 5>1>4>3>2	SHORT flame Step sequence	R>L>R>M>L	0.54s	41-43
17	Step1>5>2>4>3	SHORT flame Step sequence	L>R>L>R>M	0.54s	44-45
18	Step 5>1>4>2>3	SHORT flame Step sequence	R>L>R>L>M	0.54s	46-48
19	Step 2>4>1>5>3	SHORT flame Step sequence	L>R>L>R>M	0.54s	49-50
20	Step 4>2>5>1>3	SHORT flame Step sequence	R>L>R>L>M	0.54s	51-53
21	Step 2>4>3>1>5	SHORT flame Step sequence	L>R>M>L>R	0.54s	54-56
22	Step 4>2>3>5>1	SHORT flame Step sequence	R>L>M>R>L	0.54s	57-58
23	Step 2>3>4>1>5	SHORT flame Step sequence	L>M>R>L>R	0.54s	59-61
24	Step 4>3>2>5>1	SHORT flame Step sequence	R>M>L>R>L	0.54s	62-63
25	Step 3>1>5>2>4	SHORT flame Step sequence	M>L>R>L>R	0.54s	64-66
26	Step 3>5>1>4>2	SHORT flame Step sequence	M>R>L>R>L	0.54s	67-68
27	Step 3>2>4>1>5	SHORT flame Step sequence	M>L>R>L>R	0.54s	69-71
28	Step 3>4>2>5>1	SHORT flame Step sequence	M>R>L>R>L	0.54s	72-73
29	Step 2>3>4	SHORT flame Step sequence	L>M>R	0.32s	74-76
30	Step 4>3>2	SHORT flame Step sequence	R>M>L	0.32s	77-79
31	Step 1>3>5	SHORT flame Step sequence	L>M>R	0.32s	80-81
32	Step 5>3>1	SHORT flame Step sequence	R>M>L	0.32s	82-84
33	Step 1>5	SHORT flame Step sequence	L->R	0.21s	85-86
34	Step 5>1	SHORT flame Step sequence	R->L	0.21s	87-89
35	Step 2>4	SHORT flame Step sequence	L->R	0.21s	90-91
36	Step 4>2	SHORT flame Step sequence	R->L	0.21s	92-94

37	Step 1-5	LONG flame Step sequence	L->R	1.45s	95-96
38	Step5-1	LONG flame Step sequence	R->L	1.45s	97-99
39	Step 1>3>5>2>4	LONG flame Step sequence	L>M>R>L>R	1.45s	100-101
40	Step 5>3>1>4>2	LONG flame Step sequence	R>M>L>R>L	1.45s	102-104
41	Step 1>5>2>3>4	LONG flame Step sequence	L>R>L>M>R	1.45s	105-107
42	Step 5>1>4>3>2	LONG flame Step sequence	R>L>R>M>L	1.45s	108-109
43	Step1>5>2>4>3	LONG flame Step sequence	L>R>L>R>M	1.45s	110-112
44	Step 5>1>4>2>3	LONG flame Step sequence	R>L>R>L>M	1.45s	113-114
45	Step 2>4>1>5>3	LONG flame Step sequence	L>R>L>R>M	1.45s	115-117
46	Step 4>2>5>1>3	LONG flame Step sequence	R>L>R>L>M	1.45s	118-119
47	Step 2>4>3>1>5	LONG flame Step sequence	L>R>M>L>R	1.45s	120-122
48	Step 4>2>3>5>1	LONG flame Step sequence	R>L>M>R>L	1.45s	123-124
49	Step 2>3>4>1>5	LONG flame Step sequence	L>M>R>L>R	1.45s	125-127
50	Step 4>3>2>5>1	LONG flame Step sequence	R>M>L>R>L	1.45s	128-130
51	Step 3>1>5>2>4	LONG flame Step sequence	M>L>R>L>R	1.45s	131-132
52	Step 3>5>1>4>2	LONG flame Step sequence	M>R>L>R>L	1.45s	133-135
53	Step 3>2>4>1>5	LONG flame Step sequence	M>L>R>L>R	1.45s	136-137
54	Step 3>4>2>5>1	LONG flame Step sequence	M>R>L>R>L	1.45s	138-140
55	Step 2>3>4	LONG flame Step sequence	L>M>R	0.86s	141-142
56	Step 4>3>2	LONG flame Step sequence	R>M>L	0.86s	143-145
57	Step 1>3>5	LONG flame Step sequence	L>M>R	0.86s	146-147
58	Step 5>3>1	LONG flame Step sequence	R>M>L	0.86s	148-150
59	Step 1>5	LONG flame Step sequence	L>R	0.57s	151-152
60	Step 5>1	LONG flame Step sequence	R>L	0.57s	153-155
61	Step 2>4	LONG flame Step sequence	L>R	0.57s	156-158
62	Step 4>2	LONG flame Step sequence	R>L	0.57s	159-160
63	Step 15>3>24	SHORT flame Step sequence	LR>M>LR	0.40s	161-163
64	Step 24>3>15	SHORT flame Step sequence	LR>M>LR	0.40s	164-165
65	Step 15>24>3	SHORT flame Step sequence	LR>LR>M	0.40s	166-168
66	Step 3>24>15	SHORT flame Step sequence	M>LR>LR	0.40s	169-170
67	Step 3>15>24	SHORT flame Step sequence	M>LR>LR	0.40s	171-173
68	Step 24>15>3	SHORT flame Step sequence	LR>LR>M	0.40s	174-175
69	Step 24>135	SHORT flame Step sequence	LR>LMR	0.25s	176-178
70	Step 135>24	SHORT flame Step sequence	LMR>LR	0.25s	179-181
71	Step 15>234	SHORT flame Step sequence	LR>LMR	0.25s	182-183
72	Step 234>15	SHORT flame Step sequence	LMR>LR	0.25s	184-186
73	Step 15>3>24	LONG flame Step sequence	LR>M>LR	0.86s	187-188
74	Step 24>3>15	LONG flame Step sequence	LR>M>LR	0.86s	189-191
75	Step 15>24>3	LONG flame Step sequence	LR>LR>M	0.86s	192-193

76	Step 3>24>15	LONG flame Step sequence	M>LR>LR	0.86s	194-196
77	Step 3>15>24	LONG flame Step sequence	M>LR>LR	0.86s	197-198
78	Step 24>15>3	LONG flame Step sequence	LR>LR>M	0.86s	199-201
79	Step 24>135	LONG flame Step sequence	LR>LMR	0.57s	202-203
80	Step 135>24	LONG flame Step sequence	LMR>LR	0.57s	204-206
81	Step 15>234	LONG flame Step sequence	LR>LMR	0.57s	207-209
82	Step 234>15	LONG flame Step sequence	LMR>LR	0.57s	210-211

Multi ignition firing sequence list

Sequence No.	Ignition head No.	Description	Flame Activity	Sequence Duration	CH5 DMX Reference Value
83	12345	Multi ignition SHORT flame	Static	0.1s	212-214
84	1245	Multi ignition SHORT flame	Static	0.1s	215-216
85	234	Multi ignition SHORT flame	Static	0.1s	217-219
86	135	Multi ignition SHORT flame	Static	0.1s	220-221
87	15	Multi ignition SHORT flame	Static	0.1s	222-224
88	24	Multi ignition SHORT flame	Static	0.1s	225-226
89	12345	Multi ignition LONG flame	Static	0.28s	227-229
90	1245	Multi ignition LONG flame	Static	0.28s	230-232
91	234	Multi ignition LONG flame	Static	0.28s	233-234
92	135	Multi ignition LONG flame	Static	0.28s	235-237
93	15	Multi ignition LONG flame	Static	0.28s	238-239
94	24	Multi ignition LONG flame	Static	0.28s	240-242
95	3	Multi ignition LONG flame	Static	User defined	243-244
96	234	simultaneously	Static	User defined	245-247
>97	12345	simultaneously	Static	User defined	248-255

⚠ DMX CONTROL

uFlamer Volcano with 3 different channel mode switchable: 6CH Normal Mode, 6CH Pro Mode, 6CH Safe Mode.

6CH Normal Mode
In this channel mode uFlamer Volcano occupies 6 functional channels.

Channel	Function	Value
CH1	Manual head selection	**0:** all five heads **1-51:** head NO.1 **52-102:** head NO.2 **103-153:** head NO.3 **154-204:** head NO. 4 **205-255:** head NO.5
CH2	None	/
CH3	Ignition ON/OFF	**0~253:** Ignition OFF **254~255:** Ignition ON
CH4	Firing Duration setup	**0 and 255:** permanent fire (8s is limit duration time, 2s if 5 heads firing simultaneously) **1~254:** 10~2540ms duration time (Manual firing duration = DMX Value * 10ms)
CH5	Program sequence setup	**0-2:** no preset sequence, firing through CH1 and CH4 **3-255:** preset sequence, CH1 and CH4 disable DMX value = 2 + Sequence No.*2.55 (ROUND OFF)
CH6	Mode setup	**0~49:** Depressurize (Emergency Stop) **50~200:** Pressurize / Armed **201~255:** Depressurize (Emergency Stop)

6CH Pro Mode

In this channel mode uFlamer Volcano occupies 6 functional channels.

Channel	Function	Value
CH1	Head No.1	**0~253:** Firing OFF **254~255:** Firing ON
CH2	Head No.2	**0~253:** Firing OFF **254~255:** Firing ON
CH3	Head No.3	**0~253:** Firing OFF **254~255:** Firing ON
CH4	Head No.4	**0~253:** Firing OFF **254~255:** Firing ON
CH5	Head No.5	**0~253:** Firing OFF **254~255:** Firing ON
CH6	Mode setup	**0~49:** Depressurize (Emergency Stop) **50~200:** Pressurize / Armed **201~255:** Depressurize (Emergency Stop)

6CH Safe Mode

In this channel mode uFlamer Volcano occupies 5 functional channels and 1 separate safety channel (this channel is independent from operational channel, can be shared with other machine).

Channel	Function	Value	
Functional CH1	Manual head selection	**0:** all five heads **52-102:** head NO.2 **154-204:** head NO. 4	**1-51:** head NO.1 **103-153:** head NO.3 **205-255:** head NO.5
Functional CH2	None	/	
Functional CH3	Ignition ON/OFF	**0~253:** Ignition OFF **254~255:** Ignition ON	
Functional CH4	Firing Duration setup	**0 and 255:** permanent fire (8s is limit duration time, 2s if 5 heads firing simultaneously) **1~254:** 10~2540ms duration time (Manual firing duration = DMX Value * 10ms)	
Functional CH5	Program sequence setup	**0-2:** no preset sequence, firing through CH1 and CH4 **3-255:** preset sequence, CH1 and CH4 disable DMX value = 2 + Sequence No.*2.55 (ROUND OFF)	
Safety Channel	Safety	**0~49:** Depressurize (Emergency Stop) **50~200:** Pressurize / Armed **201~255:** Depressurize (Emergency Stop)	

Control with SHOWVEN Host Controller ZK6200/ZK6300

If use SHOWVEN Host Controller ZK6200 or ZK6300 to program the uFlamer Volcano, after set 6CH Normal Mode for uFlamer Volcano please also set on Host Controller. The setting step is:
Press "F3" on Host Controller – find "Device" – choose the right device "CIRCLE FLAMER".
Host Controller with bi-directional communication with device, please allocate a unique DMX address for each unit of uFlamer Volcano.
Press "Pre-heat" to start to pressurize uFlamer Volcano.
Firing the preset flame effect by enter the preset sequence No. to FIRING HEIGHT.

```
                    F3 CONFIG
Start No.               :      1
End No.                 :         10
Device                  : CIRCLE FLAMER
Mode Selection          : User Mode
Repeat Time Mode        : Repeat Period Mode
DMX IN                  : ON
DMX Address             :      1
CAN                     : OFF
Trigger Source          : HAND
Audio Level             :   2
Audio  Filter Delay     : 100ms
```

```
                    F1   MAIN
Synchronizarion   CIRCLE FLAMER   No. 1–10      [III]
 F I L E | FIRING |F I R I N G| TRIG  |REPEAT |REPEAT
 NO.     | HEIGHT |DURTN      | DELAY |DELAY  |COUNTS
    1    |     31 |    0.5s   |  0.0s |       |     1
                                       10.0s
Terminal    Monitor
  1       2       3       4       5       6
  7       8       9      10      11      12
 13      14      15      16      17      18
 From  1–15  Steppsequence short 2.4s
 MAIN        FILE  SELECT       CONFIG       ABOUT
```

⚠ Operation

1. Safety Distance
Definition and Instructions

Safety distance for uFlamer Volcano 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.

For uFlamer Volcano due to it with 5 flame heads, firing angle from -40° to +40°, operators should pay special attention to the radius around machine (a) and safety distance at firing direction (b). Especially when multi heads firing simultaneously the heat wave is enormous.

The safety radius around machine depends on the firing height (nozzle size), For safety distance at firing direction equals to maximum firing height * 1.5.

Nozzle Type	Max. Flame Height	Safety Radius around (a)	Safety Distance at Firing Direction (b)
SFSMA027 Nozzle EL	6m	4m	9m
SFSMA024 Nozzle L	8m	5m	12m
SFSMA025 Nozzle M	10m	6m	15m

The uFlamer Volcano safety isolation zone is a three-dimensional space with an 80° fan-shaped section enclosed by a and b (check below diagram). Unauthorized persons and objects are strictly prohibited from entering.

0° — -40°   0° — 40°

(Audience Side)
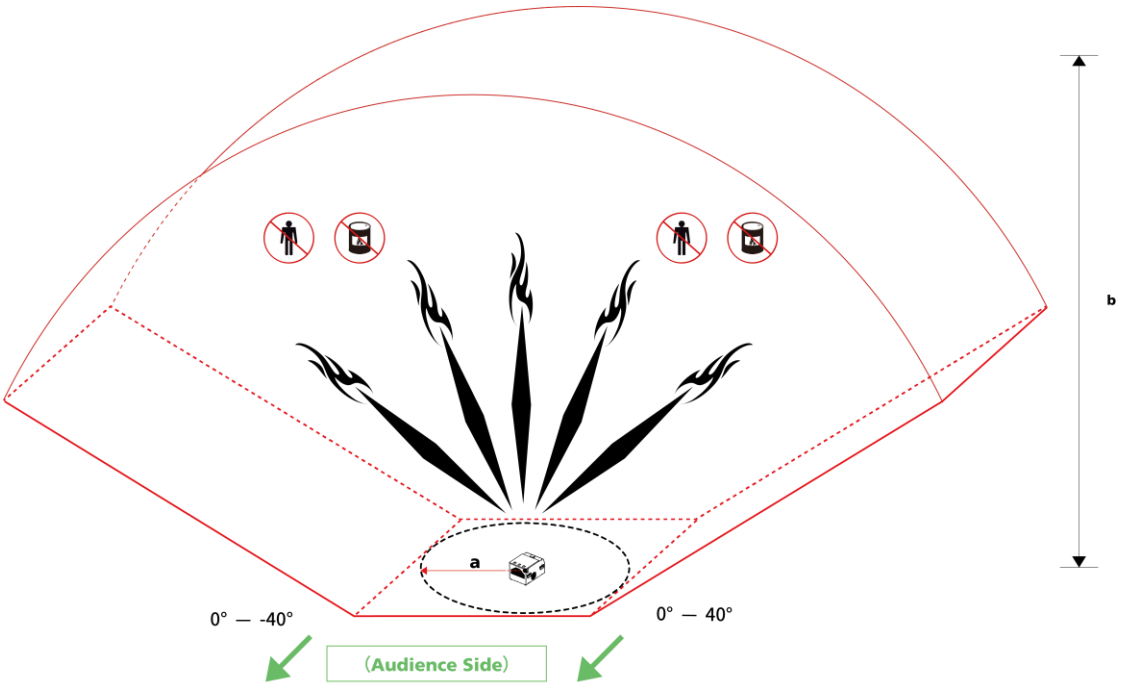
Safety distance in windy environment

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:
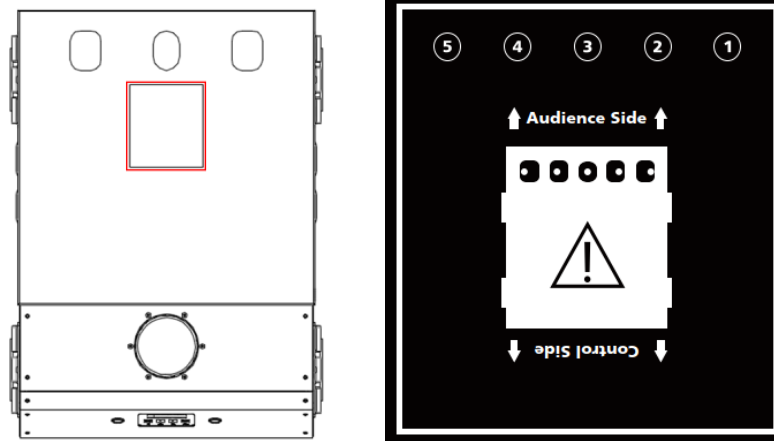
For Nozzle L: a = 2.5 + v;

For example when the wind speed is 3m/s, we use the Nozzle L, then the safety isolation zone radius should be 5.5m.

CAUTION:
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 flamer.

Direction Explanation

There is direction explanation on top panel of uFlamer Volcano as show above picture.
1. 1 to 5 is 5 flame heads of uFlamer Volcano, Far Right is flame head 1, Middle is flame head 3, Far Left is flame head 5.
2. Audience side and control side are indicated in above picture.

Label of uFlamer Volcano

The label is at rear panel of machine and information is show as below.

Fuels for uFlamer Volcano

1. Water content in fuel should less than 0.5%
2. For maximum safety, please use fuel with flash point between 60-80℃, ISOPAR L is highly recommended.
3. Ethanol is not suggested due to three reasons, first ethanol is highly flammable makes it not as safe as ISOPAR; secondly the color of flame is very weak; thirdly there are always high water content (> 0.5%) in ethanol.

4. Colored fuels are forbidden to use on uFlamer Volcano it may damage the machine.SHOWVEN excludes liability for the losses, damages and accidents caused by not using qualified fuels in accordance with this requirement.

Always have a dry powder fire extinguisher, a CO_2 fire extinguisher and an extinguishing blanket next to the equipment in case of needed. And someone must be on duty during operation. In case accident occurs, a 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.
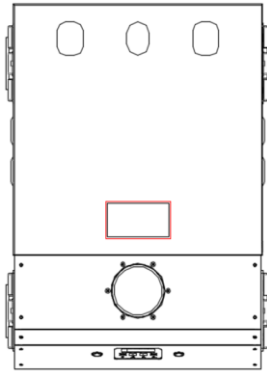
2. Install uFlamer Volcano

   a) Choose the correct nozzle, ensure the installation position of uFlamer Volcano meet above safe distance requirements. New uFlamer Volcano supplied with a nozzle M which generate up to 10m flame.
   b) Horizontal installation is highly recommended for uFlamer Volcano.
   c) Make sure uFlamer Volcano is securely installed. For truss installations always connect with safety ropes to ensure extra safety. If there is any other national or regional guidelines please follow it accordingly.

3. Connect Power and DMX cable to uFlamer Volcano

Before power and/or DMX cable connection, make sure safety lock of uFlamer Volcano stay at TEST MODE as below.
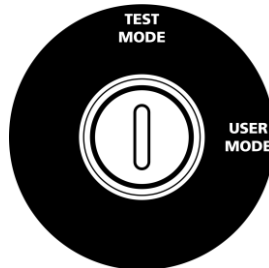
If control by DMX, follow below steps:

   a) Connect a power cable to the POWER IN socket of uFlamer Volcano. Connect the other end of power cable to the power source. Each unit of uFlamer Volcano connected to power supply directly. Make sure power supply in consistent with the rated voltage of the equipment, and the socket must well grounded.
   b) Power on machine.
   c) Assign a DMX address for each unit of uFlamer Volcano. If use SHOWVEN host controller or FXcommander to control the machine please allocate a unique DMX address for each unit of machine.
   d) Connect a DMX cable to the DMX IN socket of first unit of Volcano, another head of this DMX cable connect to DMX console (such as FXcommander). **Make sure the DMX console is powered off.**
   e) Connect a DMX cable to the DMX OUT socket of previous Volcano, and the other end to the DMX IN of next machine. Connect all devices in series in this way.
   f) 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.

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

a) Connect a power cable to the POWER IN socket of uFlamer Volcano. Connect the other end of power cable to the power source. Each unit of uFlamer Volcano connected to power supply directly. Make sure power supply in consistent with the rated voltage of the equipment, and the socket must well grounded.

Power on uFlamer Volcano.

b) Set the Ext Ignite to ON status in advanced interface, set the Ext Ignite Time. When use External trigger, uFlamer Volcano can only firing 5 heads simultaneously.

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

d) Connect the other end of power control cables to the pyro controller (9-60V external trigger source). **Make sure the pyro controller is powered off**.

4. Power ON the DMX console or pyro controller

5. Programming

Program the uFlamer Volcano with DMX console.

6. Test the ignition function of uFlamer Volcano

Test the ignition function of uFlamer Volcano, we can check whether the igniters of each unit of Volcano are working fine. Due to the safety switch is stay at TEST MODE the pump won't work, there will be only ignition while no fuel spray out, so no flames generated.

7. Fill the uFlamer Volcano

a) Please fill the machine with qualified fuel. The fuels suggested on Volcano are ISOPAR, ISOPROPANOL, please make sure water content in fuel should less than 0.5%.

b) uFlamer Volcano can also support automatic fueling through SHOWVEN fueling station uPumper Fueling, connect the Volcano and Fueling station through Fuel Input quick coupler.

c) For maximum safety, when use the uPumper Fueling only use fuel with flash point between 60-80℃, ISOPAR L is highly recommended. ISOPROPANOL, Ethanol etc highly flammable fuels are forbidden to use on uPumper Fueling.

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 switch of uFlamer Volcano to USER MODE.
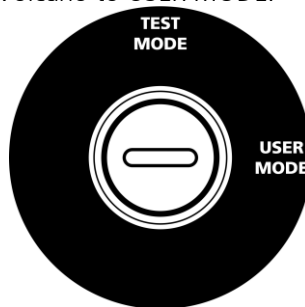
c) Pressurize uFlamer Volcano.

d) 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. Depressurize

Depressurize all uFlamer Volcano after use or if not use for a long time during the show we also suggest to depressurize to ensure the safety.

10. Power OFF

a) Power OFF DMX console.

b) Switch safety switch of uFlamer Volcano to TEST MODE.

c) Power OFF uFlamer Volcano.

d) Unplug power cable, DMX cable.

⚠ Nozzles and Nozzle Replacement

Nozzles and Flame Height

Nozzle M: (standard configuration)
Short flame: 5-7m,
Long flame: 8-10m.
Nozzle L:
Short flame: 3-5m,
Long flame: 6-8m.
Nozzle EL:
Short flame: 3-4m,
Long flame: 4-6m.

Nozzle Replacement Wrench

Use 14mm outer hexagon socket wrench to disassemble the nozzle, clean the nozzle and nozzle socket with air gun (air compressor), change a different nozzle and install it.
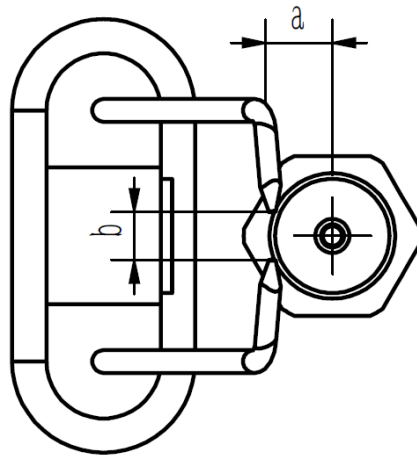
Nozzle Installation（available in new design）
Please assemble the stailess steel gasket(RMSMA530), O ring and nozzle main part according to below picture. The O ring should be inside the stailess steel gasket, otherwise it may leads to fuel leakage.

Use nozzle replacement tool outer hexagon socket wrench to tighten the nozzle.
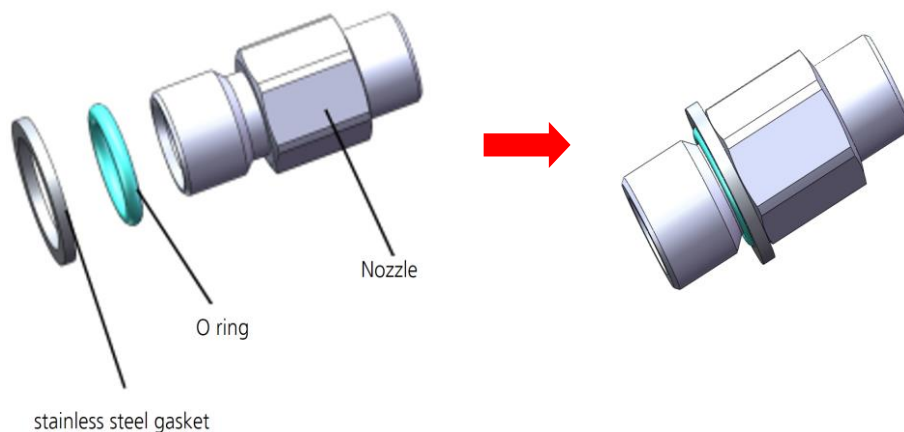
◬ Igniter Position Adjustment

Whenever changed the nozzle or ignition is not good, please check igniter pole position according to below parameters. Check the ignition success rate after adjustment by firing.

Nozzle	a (mm)	b (mm)
M		
L	8±0.5	4±0.5
EL		

Note: Do unplug the power cable when service flamer.

◬ Maintenance

1. To maintain the system 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. 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.

4. 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 (material and size of O-ring: fluororubber O-ring, the outermost diameter is 14 mm, and the line diameter is 2 m
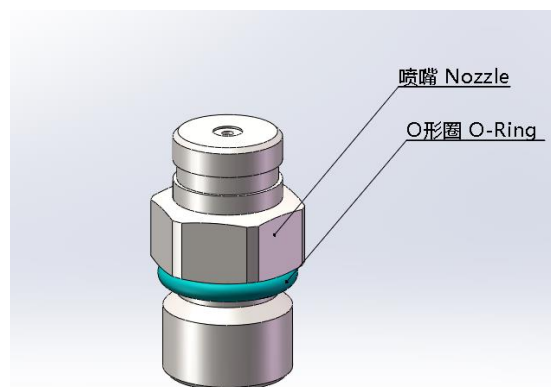
△ Optional Parts

Part. No.	Description	pcs / unit
RMWAS025	Fluorine O ring, outer ϕ14, wire diameter is 2 mm	1
RMBOT036	Safety ring	2
RMEMD062	Wireless receiver (for wireless control with FXcommander)	1
RMSTE983	Wind shield	2
SFSMA025	nozzle M	1
SFSMA024	nozzle L	1
SFSMA027	nozzle EL	1
RMSMA530	SS304 gasket, outer ϕ18, inner ϕ14, thickness 1.5mm	1
SFMET944	Nozzle disassemble tool	1
RMMET425	Waterproof cover (3mm fire retardant oxford cloth)	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 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®