

# Volcano Flame System (LPG Gas Flame)



**GnG**

Phone : 82-31-354-9791

Fax : 82-31-354-9782

[diotima1@paran.com](mailto:diotima1@paran.com)

[www.colorfirefly.com](http://www.colorfirefly.com)

#24-1 Yulam-ri, Paltan-myeon, Hwasung-si, Gyeonggi-do, Korea

# Volcano Flame System

Volcano Flame System can shoot LPG flame pillar 2 ~ 4 meter high.

The LPG gas tank(2KG, 4.5LBS) is housed inside the system so that there is no need to run gas hose from LPG gas tank. Just connect power code and DMX signal cable and operate.

For safety, this system has safeguard system which is composed of flame sensing rod and its flame sensing board. Without the solid pilot flame, the main valve does not open and accordingly, it cannot shoot the flame. The pilot flame strike process repeats till the pilot flame becomes solid and even during the show, when the pilot flame is gone unexpectedly, the pilot re-strike resumes automatically and immediately within 0.3seconds. During this re-strike process, the main valve keeps closed so that no danger to shoot the flame accidentally. Also, for more safety, it has double valve system, main valve and effect valve. When the pilot flame becomes solid, the main valve is open but the effect valve keeps still closed. When you push the shooting button, then, the effect valve opens to shoot the flame.

This system can shoot the flame at the height of 2 to 4 meter depending on how high you set the pressure. Shorter shooting can make the flame ball and a little longer shooting can make the flame pillar.

This system is controlled with standard DMX 512 controller or our handy DMX controller. The pilot channel is designated to CH 100. This pilot channel No. is fixed and cannot be changed.

## Specification

- Power : 110VAC or 220VAC, 50/60Hz.
- Flame Height : 2 ~ 4meter
- Working Pressure : 2 ~ 5bar. (According to working pressure, the flame height can be from 2 to 4 meter.)
- Fuel : 2KG(4.5LBS) LPG or Propane Gas Tank
- Weight : 11KG
- The flame height can be adjustable by setting the inlet pressure differently.



# Warnings

- ❖ This system is intended to provide a flame special effect. As with all potentially dangerous special effects, the operator should be in full view of the systems at all times during operation.
- ❖ The system's flame height is 2~4 meter. Appropriate clearance for flame and its heat is required.
- ❖ Under the rainy or strong-windy weather, do not use the system.
- ❖ Don't shoot flames toward people or any flammable objects.
- ❖ Place the system on flame resistant surface and secure safe distance of 6 meter on all side.
- ❖ Understand completely how to operate and control the system before using.
- ❖ Always keep the working pressure stipulated in this manual. Working pressure is the most important factor for the best show by the system. Always abide by the working pressure.
- ❖ Always check any leakage of gas for the system, hoses and tanks before using.
- ❖ Also, check all the power and signal cables if there is any damage or trouble before using.
- ❖ During transportation and storage, remove all the fuels and pressure from the system.
- ❖ Always place the fire extinguisher beside the operator or at the right place.
- ❖ For storage and transportation, please be sure that the gas tank is removed from the system.
- ❖ The modification or usage for other purposes of the system are prohibited.
- ❖ Abide by the law imposed by your authority about the usage and operation of the system.

# Operating Procedure

- Locate the system at the safe place properly.
- Please insert the gas tank into the system after you open its cover and connect the gas hose to the tank. At that time, please confirm the black sealing rubber is properly located. If there is no black sealing rubber at the end of gas adapter, the gas can be leaked.
- For setting pressure, please pull out the pressure handle lightly and turn right or left. After you set the pressure, push that handle lightly. You can see the exact set pressure after one or two shots because the pressure regulator is non-release type.
- Connect power code and DMX signal cable.
- In winter, gas is apt not to be gasified very well or in summer, it is gasified too strong so that the pilot flame can be unstable. In this case, open the top cover and set the pilot gas pressure properly, using pilot gas pressure regulator (see the below picture 3)
- You can change the flame height by setting the inlet gas pressure to the system with main flame pressure regulator differently.
- After the show, first close the gas valve of the gas tank and then shoot one or two times for eliminating the gas remained inside the gas hose, gas pipe and system. Then, remove the gas tank from the system before packing or storage or transportation.



#### Pilot Flame Pressure Regulator

You can change the gas pressure to pilot flame by using this pressure regulator. When you open the cover of this part, you can see the pressure regulator. When pilot flame is unstable due to the weather, change the pilot gas pressure properly.

#### Main Flame Pressure Regulator

When you want to change the flame height, pull out this handle lightly and turn it right or left, then push the handle. After one or two shots, you can see the changed pressure.

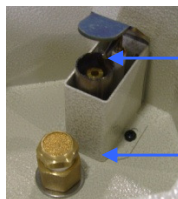


#### Gas Tank Adapter

Please connect 2KG gas tank to this adapter. When you connect the gas tank, please check the black rubber seal in place. If there is no **black rubber seal**, the gas can be leaked.

The gas tank should be 2KG or 4.5lbs or smaller.

If its size is over 305mm(H) x 220mm(W), it will not fit to the system.



Pilot flame sensing rod and igniter installed inside the pilot tube.

Main Flame Nozzle

# DMX Control

This system is programmed and controlled with standard DMX 512 controller.

Every system has two DMX channels. One is for pilot flame and the other is for main flame.

For convenience, pilot channel is designated to Channel No. 100. You cannot change this pilot channel number. So, please program pilot to CH 100 always.

## DIP Switch for changing start address.

Every dip switch's value is as follows;

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
1	2	4	8	16	32	64	128



Address Monitor      DIP Switch

For example, if you want to set starting address as 13,

Turn on SW1, SW3, and SW4. When you add all these turned-on dip switch's values(1+4+8), it will be 13 and it is starting address of that system.

Volcano No.	Starting Address	DIP Switch(1:on, 0:off)
1	1	10000000
2	2	01000000
3	3	11000000
4	4	00100000
5	5	10100000
6	6	01100000

# Handy DMX Controller

Handy DMX Controller (DMX 512 protocol) is for simple control of the system.

- free voltage, 3 XLR pin, 6 Channels, Flash Mode and can set the starting address.
- powered with 9VDC rechargeable batter or AC adapter (AC Power).

Do not use non-rechargeable battery if possible. When non-rechargeable battery is installed, don't use AC adapter without removing the battery. If you use AC adapter (AC power), non-rechargeable battery installed inside can be exploded.

- Flash Button : While flash button is on-state, the controller works only while you touch the buttons.
- No.1 button ~ 5 : Fire Buttons
- No. 6 Button : Pilot Button, It is allocated to CH100.

How to set the starting address ;

- Push flash button for 3 seconds or longer, then you can see the flash button led is flickering.
  - Button No. 1 is hundred digit and Button No. 2 is ten digit and Button No. 3 is single digit.
- For example, to set the starting address 128, push Button No. 1 one time and push Button No. 2 two time and push Button No. 3 eight time. You can see 128 on DMX address monitor(FND).



# Maintenance

## Maintenance

- Ensure the pilot vents are not clogged by dust. If necessary, remove the dust with strong compressed air gun. Under cold weather, the pilot fuel may not be gasified very well and so that pilot flame can't be solid. In this case, increase the gas quantity to pilot flame.
- After show, ensure that Gas tank were removed from each system.
- Keep out of reach of children or don't allow unqualified people to touch the system.
- Always keep the system clean and safe. Also, please cover some protective material over the top not to be dusted on.
- Store the system in clean, dry and cool area away from flammable or heat sources.
- Check periodically the tubing, hoses, cables and gas piping, if they are damaged.

## Trouble Shooting

### ➤ Pilot Flame Trouble

- In case of no spark, check the distance of igniter and its cover's wall. If igniter is bent, located far from its wall or too close to its wall, keep proper distance from its wall. Or if any membrane is formed, remove it. Or check the transformer if it works properly. Or check if ignition cable and igniter's harness is connected correctly.
- In case of no pilot flame, weak pilot flame, pilot flame flickering, check pilot fuel state, if canister valve is open, if pilot canister is properly loaded. If pilot vent is clogged with dust, remove the dusts with air-gun.
- If the flame sensor cannot sense the pilot flame, firstly check if the flame sensing rod is contacting pilot tube or pilot cover. If it contacts some parts of pilot area, it cannot sense the pilot flame. When pilot flame sensing rod senses solid pilot flame, the GREEN LED of the flame sensing board lights. RED LED light is POWER LAMP.

### ➤ DMX Trouble

- When DMX signal works normally, the address number is displayed in address monitor firmly after 3 times flashing. When there is flickering address monitor or no address number on monitor, DMX signal is not transmitted to the system from the controller. Check signal cable and its input and output.

OR DMX Board might be broken. Also, when you use your own DMX cable, please check the pin numbers if they matches the pin numbers of the system.