

# KAM

I N S T R U C T I O N M A N U A L

## KSM2000

High power horizontal smoke machine with DMX

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Due to continuous product development, please ensure that you have downloaded the latest instruction manual for this product from the Kam website at [www.kam.co.uk](http://www.kam.co.uk)

For the latest updates and information on the entire Kam range visit:

[www.kam.co.uk](http://www.kam.co.uk)

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**Thank you for purchasing this Kam product, we are sure that it will serve you for many years to come.**

To optimise the performance of this product, please read these operating instructions carefully to familiarise yourself with the basic operations of this unit. Please retain them for future reference. This unit has been tested at the factory before being shipped to you.

To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or moisture. To prevent a fire hazard, do not expose the unit to any naked flame sources. Unplug this apparatus during lightning storms or if it is unlikely to be used for long periods of time.

When installing the unit, please ensure you leave enough space around the unit for ventilation. Slots and openings in the unit are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. To prevent fire hazard, the openings should never be blocked or covered.

The unit is powered by mains electricity, always handle the power cable by the plug. Never pull out the plug by pulling on the cable. Never touch the power cable when your hands are wet as this could cause an electric shock. Do not tie a knot in the cable. The power cable should be placed such that it is not likely to be stepped on. A damaged power cable can cause a fire or give you an electrical shock. Check the power cord periodically, if you ever find that it is damaged, replace it before using the unit again. Contact your retailer for a replacement.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit is to be used meets the required written on the unit.

**The lightning flash symbol inside a triangle is to alert the user to the presence high voltage within the unit's enclosure that may be of sufficient power to constitute a risk of electrical shock to persons.**

**Caution: to prevent the risk of electric shock, do not attempt to open the unit. No user-serviceable parts inside. Refer all servicing to qualified service personnel.**

**The exclamation mark inside a triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.**

Select the installation location of your unit carefully. Avoid placing it in direct sunlight or locations subject to vibration and excessive dust. Do not use the unit where there are extremes in temperature (below 41°F / 5°C or exceeding 95°F / 35°C).

**Unpacking and safety** Please unpack your new product carefully. Your new product should reach you in perfect condition. Please check that no damage has occurred during transit. If any damage is found, do not operate your unit. Please contact the retailer you purchased it from immediately. If there is any damage to the mains cable do not use the device. Always disconnect the unit from the mains supply when carrying out any cleaning of the unit.

### Power supply

Use the plug to connect to the main power supply with the following connections:

Wire	Connection
Brown	Live
Blue	Neutral
Yellow/Cyan	Earth



### Manufacturer declarations

In compliance with the following requirements: **RoHS Directive (2002/95/EU)** and **WEEE Directive (2002/96/EU)**.  
If this product is ever no longer functional please take it to a recycling plant for environmentally friendly disposal.

### CE declaration of conformity

R&TTE Directive (1999/5/EU), EMC Directive (2004/108/EU), Low Voltage Directive (2006/95/EU).  
The declarations are available on application from [certification@lambapl.com](mailto:certification@lambapl.com)

Before putting the devices into operation, please observe the respective country-specific regulations.

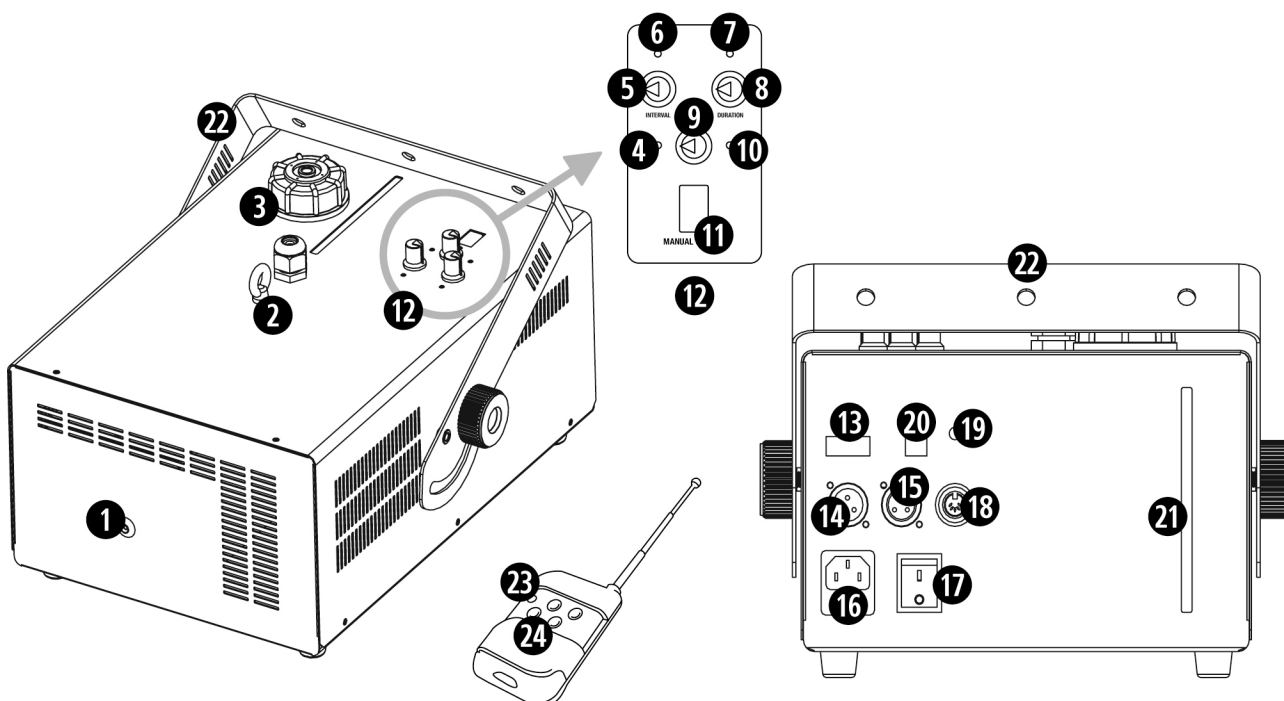
### Package contents

1 x smoke machine / 1 x wireless remote control / 1 x instruction manual (this document) / 1 x mains cable

## Safety instructions

Please read the following notes carefully because they include important safety information regarding this product.

1. Always plug in the power plug last and disconnect from the mains when the device is not in use or before cleaning.
2. Do not install and operate the device in rain or extreme heat, moisture or dusty environments.
3. This device is for indoor use only and in a dry environment.
4. If the device has been exposed to drastic temperature fluctuations, do not switch the unit on immediately but wait until it reaches room temperature.
5. Do not shake the device and avoid brute force when installing or operating.
6. Do not use the device during thunderstorms. Disconnect the unit from the mains.
7. Do not use solvents or aggressive detergent to clean the device. Use a soft, clean cloth.
8. Do not modify the device or the connected power cord.
9. In the event of a serious operating problem, stop using the unit immediately. Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact your Authorised Kam Retailer. Always use the same type of spare parts.
10. Never connect the device to a dimmer pack.
11. Make sure the power cord is never crimped or damaged.
12. Never disconnect the power cord by pulling or tugging on the cord.
13. Never drink the smoke/haze fluid.
14. **IMPORTANT – the smoke aperture on the unit can get VERY HOT. Never touch this area whilst the unit is in operation and always leave the unit to cool down before touching the area.**

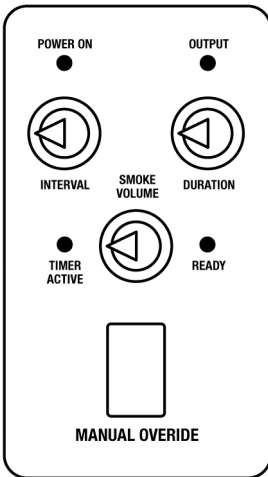


- |                        |                           |                                      |                               |
|------------------------|---------------------------|--------------------------------------|-------------------------------|
| 1. Smoke aperture      | 7. Output indicator LED   | 13. DMX address dipswitches          | 19. Low fluid indicator       |
| 2. Safety eyelet       | 8. Duration knob          | 14. DMX output (3 pin)               | 20. Wireless remote selection |
| 3. Fluid tank cap      | 9. Smoke volume knob      | 15. DMX input (3 pin)                | 21. Fluid level               |
| 4. Timer active LED    | 10. Unit ready LED        | 16. IEC mains input                  | 22. Hanging bracket           |
| 5. Timer interval knob | 11. Output operating LED  | 17. Power On/Off switch              | 23. Remote LED indicator      |
| 6. Power indicator LED | 12. Timer control section | 18. Controller connection (optional) | 24. Remote Fog button         |

## Setup and operation

1. Unpack your unit.
2. Unscrew and remove the cap of the tank.
3. Fill the tank with smoke fluid (do not over fill the tank).
4. Screw on the cap securely.
5. Check that the pipe is fed down towards the bottom of the tank so that a consistent flow of fluid is supplied to the machine.
6. Connect the IEC mains cable to the rear of the unit and then to the mains power. Turn the unit on using the Power On button.
7. Heat up time is usually between 3-4 minutes. Please ensure no button is pressed during the heat up time.
8. When the machine is ready, the tank will illuminate.
9. Press the Fog button on the remote control for 5 seconds so the fluid has a chance to flow through the heater block.
10. It is recommended that the unit produces smoke with small pauses in between so that the temperature is maintained and the thermostat doesn't switch off.

**Timer control operation** (located on top of unit)



Knob/button/LED	Function
Manual Override button	Press to control the fog/smoke manually / to set the unit to run continuously / or to set the unit to run off bursts with adjustable timer setting.
Ready LED	Turns to green when the pre-heating process is completed and the unit is ready for use.
Timer Active LED	Turns to green when the timer function is enabled.
Smoke Volume knob	Adjusts the volume of the fog/smoke output.
Interval knob	Use to set the time interval (in minutes) between bursts of fog/smoke (maximum value: 30 minutes).
Duration knob	Use to set the time duration (in seconds) of fog/smoke bursts (maximum value: 15 seconds).
Power On LED	When the unit is turned on, the Power On LED will light up green.
Output LED	This LED turns green when the fog output is triggered.

**Remote control operation**

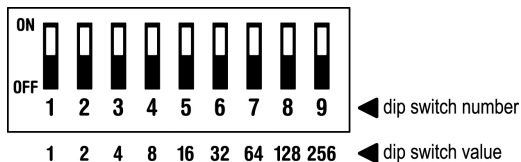
Press the fog button on the remote control and the unit will output smoke for as long as you hold down the button.

The remote control has four channels, therefore multiple units can be operated via one remote control. You can either control four separate units (one per button) or you can control four units using just one button. You do the later by setting the receiver buttons to the same number and assigning them to just one button on the remote (e.g. all units set to channel one will operate when button one is pressed on the remote control). Set the remote control channels on the rear of the unit with the Wireless remote selection dip switches.

**When using either manual or remote control modes, please observe the above point 10. and do not run the unit for long periods of time without pausing.**

## DMX control mode

DMX channel	DMX value	Function
Channel 1	000 - 005	0% output
	006 - 255	5% - 100% output



To set the DMX address please see the table below and set using the dip switches on the rear of the unit (see diagram).

Note: 1 = On, 0 = Off

DMX address	DIP Switches								
	1	2	4	8	16	32	64	128	256
1	1	0	0	0	0	0	0	0	0
2	0	1	0	0	0	0	0	0	0
3	1	1	0	0	0	0	0	0	0
...	...	...	...	...	...	...	...	...	...
410	0	1	0	1	1	0	0	1	1

### Fuse Replacement:

Unplug the IEC power cable before replacing the fuse! Always replace with same type of fuse.

1. Using a flat head screwdriver, remove the fuse holder from the IEC housing.
2. Remove the bad fuse from the fuse holder.
3. Insert the new fuse into the fuse holder.
4. Install the fuse holder in the IEC housing.

### Mounting :

**Orientation:** This fixture should only be mounted/used on a flat surface. This fixture should not be tilted.

**Rigging:** It is important never to obstruct the vents' pathways. Mount the fixture using, a suitable "C" or "O" type clamp.

When selecting installation location, take into consideration the fluid reservoir access and routine maintenance.

Safety cables must always be used, utilising the provided safety eye bolt.

Never mount in places where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation.

### General maintenance

To maintain optimum performance and minimise wear, the item should be cleaned frequently. Usage and environment are contributing factors in determining the cleaning frequency. As a general rule, fixtures should be cleaned after use to avoid dust build-up and blockages, which can result in poor performance, overheating and breakages. Be sure to unplug the unit from the mains **before** conducting any maintenance. Use a vacuum and a soft brush to remove dust collected on external vents and internal components. Clean the external case when the unit has **completely** cooled down with a dry cloth or tissue.

### Regular maintenance

Be sure to power off fixture **before** conducting any maintenance. Every 40 hours of continuous operation, it is recommended to run a **cleaning solution** composed of 80% **distilled** water and 20% distilled **white vinegar** through the system to prevent the accumulation of particulate matter in the heating element.

The recommended cleaning regime is as follows:

1. Empty all haze/smoke fluid from the machine.
2. Add the above **cleaning solution** to the tank (80% **distilled** water and 20% distilled **white vinegar**).
3. Plug the unit in to the mains and allow it to warm up.
4. Run the unit in a well-ventilated area until the tank is almost empty. **Do not allow the pump to run dry.**

Cleaning is now complete. Refill with haze/smoke fluid. Run the unit briefly to clear any cleaning solution from the system.

## Trouble shooting

Symptom	Solution
No Power	Check mains power.
	Check external fuse.
	Check internal fuse.
No smoke output	Check fluid level.
	Check remote.
	If using wireless remote control, check batteries.
Breaker/fuse keeps blowing	Possible electrical short. Contact retailer/distributor for further instructions.
Low smoke output	Run a cleaning solution through the smoke machine.
	Check that the smoke machine is plugged into the correct voltage.
Smoke machine is not heating up	Check the external fuse.
	Check the internal fuse.
	Possible faulty part. Contact your retailer/distributor for further instructions.
Remote control does not work	Make sure connector is firmly connected to device.
	Check batteries in remote control.
	Possible faulty controller. Try using another controller.
	Check the internal fuse.
	Check the external fuse.
Fluid indicator states no smoke but the container is full	Try resetting the smoke machine by turning the power off and then on again.
	Possible faulty part. Contact retailer/distributor for further instructions.

## Specifications and features

Model	Kam KSM2000
power supply	230V AC - 50Hz
Real power	2000w
Fuse	F7A
Re-heat time	3 minutes
Output	24,000 CuFt per minute (approx)
Tank capacity	2.5 litres
Timer remote	Yes
Wireless remote	Yes
Gross weight	7.32kg