



SHADOW™ Dusk Smoke Machine Operations Manual



www.tempest.us.com

ROSCO

TABLE OF CONTENTS

Introduction	1
Important Safeguards	2-4
Unpacking.....	4
Controls	4
Setting Up	5
Fluid Setup	5
Remote Connection.....	5
Power Connections	5
Operating the Machine.....	6
Powering On.....	6
Heating.....	6
Using the Remote Control.....	6
Changing Fluid	6
Powering Down.....	6
Ducting Smoke	7
Troubleshooting	7
Maintenance.....	8
Exterior Cleaning	8
Storage and Shipment	8
Specifications.....	9-10
Warranty	11
CE Certificate of Conformity	12

INTRODUCTION

Congratulations on your purchase of the Tempest Shadow Dusk smoke machine. The Dusk offers the perfect balance of performance, reliability and affordability. To ensure efficient and safe operation, please take a few moments to read this manual completely.

The Shadow Dusk is a thermal aerosol generator designed for continuous fog output. This machine is one part of a system, the other component being Tempest's Smoke Simulation Fluid. All Tempest Smoke Fluids are unique water-based formulations that contain no petroleum distillates and are safe when used according to instructions. The operating temperature, pump pressure, and output nozzle of the Dusk have been specifically designed and engineered together to maximize the aerosolization of Tempest Smoke Simulation fluids.

Do not use any fluids in the Dusk other than genuine Tempest Smoke Simulation fluids as they have not been tested for optimal performance and safety considerations. Doing so may damage the machine and will void the warranty.

Note: The terms "fog," "haze" and "smoke" are used interchangeably throughout this manual. Tempest Shadow Smoke Machines do not produce actual smoke, only a mist or aerosol.

IMPORTANT SAFEGUARDS

READ AND UNDERSTAND THESE SAFETY PRECAUTIONS BEFORE OPERATING THE MACHINE. FAILURE TO PROPERLY FOLLOW THESE PRECAUTIONS MAY LEAD TO A FIRE, ELECTRICAL SHOCK, OR BURNS.

FOG FLUID HEALTH CAUTION: VAPOR FROM THIS FLUID, LIKE ANY OTHER COMMON MATERIAL IN A VAPORIZED STATE, MAY BE IRRITATING TO OR CAUSE ALLERGIC SYMPTOMS IN SOME PERSONS WITH ALLERGENIC SENSITIVITY. DO NOT EXPOSE AT CLOSE RANGE TO KNOWN ASTHMATICS.

The following symbols are used to identify important safety information:



Caution! Safety hazard. Risk of personal injury.



Caution! Burn hazard. Hot surface. Do not touch



Danger! Hazardous voltage. Contact will cause electric shock.



Caution! Fire hazard.

Preventing Electric Shock

- This machine uses electrical power at common commercially available voltages. When directly contacted, such voltages are hazardous to human life. All precautions commonly applicable to the use of electric power generally are applicable to the use of this machine.



- This machine is designed to operate from three-wire power systems where one of the wires is a safety ground. **DO NOT** disconnect the safety ground or use extension cords or “cheater” plugs to connect this machine to a two-wire system. Operation without a safety ground may result in a hazardous electrical shock.
- Check the current and voltage rating of your machine. Extension cords must be properly sized and rated for voltage, current and length. Check your local electrical code for the correct gauge extension cord. If an extension cord shows signs of wear or gets warm to the touch, discontinue its use and obtain a cord with a higher current rating. Improper extension cords are not only hazardous, but may result in poor machine performance due to excessive voltage drop.
- Never use any machine that shows signs of improper use. Even slight damage may be an indication of a major problem. If the machine looks questionable, use it only under strict observation. If the machine shows any unusual behavior, disconnect machine immediately from power and send machine to a Service Center for repair.
- Disconnect the machine from power source before servicing and when not in use.

Preventing Burns and Fire



- During the warm-up phase and during operations, people should not stand within three feet (one meter) of the front of the machine. Flammable material like paper, fabric, etc., should never be placed directly on or around this equipment, or any other electrical device with a heating element.



- The fog should be blown into an open space and should not be directed at people or objects. Never blow fog on hot surfaces, into glowing heating elements or into open flames. The normally non-flammable and non-toxic fog could react on very hot surfaces and be burnt or decomposed.
- Do not operate the machine in a tightly confined space where the ambient temperature might exceed 135° F (57° C). A continuous flow of air is required to maintain temperature within the machine housing. Sensitive electronic components deteriorate rapidly under high heat conditions. Operation of the machine in an enclosure of less than ten cubic feet (one cubic meter) is dangerous, and automatically voids the warranty.
- **Enclosing any heating device so it is invisible to the operator creates a potential fire hazard, no matter what the ambient temperature of the enclosure. To do so with any high-amperage device is to assume substantial risk. Tempest strongly recommends against it.**

Safety Precautions



- In any facility, the fog concentration should be controlled. The fog should never mask emergency exits, safety signs, staircases or other safety constructions.
- After long use, or if the machine is not properly set, some liquid droplets or wet area may appear in front of the machine's outlet. This liquid should be wiped up to prevent a condition where someone might slip and fall.

Preventing Improper Operation



- Unauthorized repair or alteration of any safety devices can lead to improper operation and accidents. Repairs should be performed only by an authorized Service Center.
- **Use of any fluid other than Tempest Smoke Simulation Fluids or modification or attempted unauthorized repair of the machine will immediately invalidate the warranty.**
- Machines are designed for continuous use over an 8-hour day, but to protect components, it is wise to turn off the machine when it is not in use. In permanent installations, it is advisable to equip the circuit with a night cut-off device.

Additional Precautions: Do's & Don'ts

- Do Read the entire manual before operating the machine and pay particular attention to all CAUTIONS AND WARNINGS.
- Do Use an extension cord that is properly rated for voltage, current and length, and is free from nicks, cuts or other signs of wear.
- Do Check to see that the machine is clean and free of foreign objects before each operating period.

- Do Ensure that the machine is adequately ventilated.
- Do Use proper caution when handling hot surfaces.
- Do Use the minimum amount of fog required to achieve the desired effect.
- Do Not Use the machine near a person who has asthma or similar inhalation disorder.
- Do Not Use any foreign substances in the machine.
- Do Not Use a machine that is damaged or operating improperly in any way.
- Do Not Use a machine that leaks fluid from the housing.
- Do Not Leave the machine switched on for prolonged periods without producing fog.
- Do Not Enclose the machine.
- Do Not Install the machine in such a fashion that the operator can not see the whole machine, including the indicator lights.
- Do Not Touch the shielded nozzle of the machine. Allow sufficient cooling time after operation before attempting to perform maintenance or storage.
- Do Not Direct the fog output continuously against nearby surfaces. This may eventually cause fluid to re-condense.

UNPACKING

Your Shadow Dusk requires no assembly. *Note: 230 volt machines are shipped with bare leads at the end of the power cord. A proper electrical connector must be attached based on the local power requirements.* Carefully remove the machine from the box. Ensure that no tape or packing materials are stuck to the machine. Stray packing materials that remain attached to high temperature areas of the machine could melt or burn during operation. In particular, ensure that the area around the nozzle is free of any materials or debris.

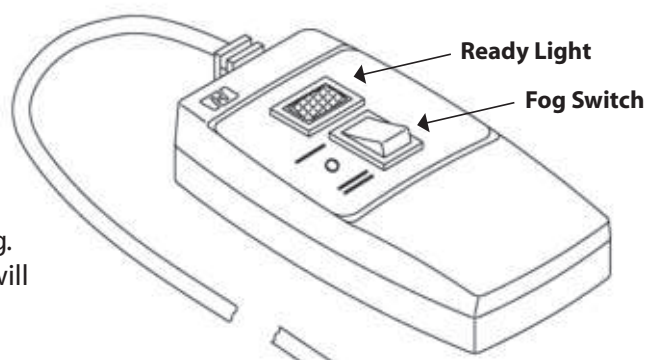
CONTROLS

Main Power Switch

Turns the machine on or off by controlling the flow of power to the unit.

Fog Switch

The fog switch has three positions: an ON position that is designated as a single line, a MOMENTARY position that is designated as a double line, and the OFF position that is designated as "O" in the middle. Press the switch in the desired direction to make fog. Returning the switch to the center OFF position will stop fog production.



Ready Indicator

A green indicator light located on the remote that illuminates when the minimum temperature for producing fog has been achieved.

SETTING UP

The Shadow Dusk should be located on a secure, solid surface such as the floor. The machine can operate in any orientation from 45 degrees upwards to 45 degrees downwards. Take precautions to avoid fluid spills if the machine is oriented at an angle.

Fluid Set Up

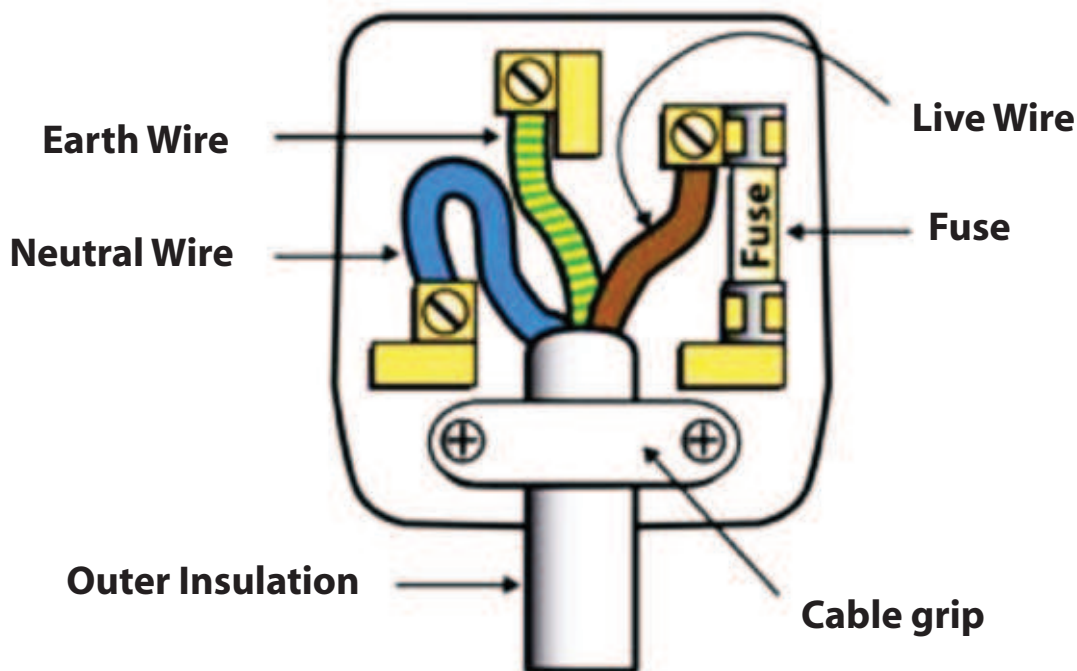
Only use genuine Tempest Smoke Simulations fluids in your Dusk machine. The use of any other fluid will void your warranty, may damage the equipment, and may cause health hazards. For convenience, the Dusk is designed with an integral compartment that will hold a 1-Litre bottle of fog fluid. Place the fluid bottle into the compartment. Feed the fluid inlet hose into the bottle of fog fluid, insuring that the filter, located at the end of the tube, is fully submerged in fluid. Slide the bottle cap along the tube and tighten the cap onto the bottle. Take precautions to avoid fluid spills.

Remote Connection

Plug the remote control into the socket on the rear of the machine marked "Remote Control". The remote control for the Dusk is unique to this machine and is not compatible with other Tempest Shadow smoke machines.

Power Connections

Ensure that the machine is plugged into an outlet rated for the proper voltage and amperage. The Dusk is a 1,000 watt device and will draw 4.3A at 230 VAC or 9.1A at 115 VAC. *Note: 230 volt machines are shipped with bare leads at the end of the power cord. A proper electrical connector must be attached based on the local power requirements. If unsure how to do this, please contact Tempest for assistance. An example of properly wiring a UK 13A connector is shown below.*



OPERATING THE MACHINE

Powering On

Make sure the unit is plugged in. Turn on the Main Power Switch that is located next to the power cord on the rear of the machine.

Heating

When switched on, the machine will begin to heat up to its optimal temperature. The initial heating cycle will take 7-10 minutes. When the green Ready Indicator light comes on, the machine is ready to make fog.

Using the Remote Control

The Remote Control can be operated directly on the machine by simply placing the remote's magnetic backing on the machine body. The remote can be used at a distance using the 10 foot (3m) cable that is provided.

When the green Ready Indicator light is illuminated, the Dusk is ready to make fog. To run the machine continuously, press the Fog Switch into the ON position toward the single line. The machine will make fog until the Fog Switch is moved back to the center, OFF position. To operate the machine for MOMENTARY bursts of fog, press and hold the Fog Switch toward the two lines. The remote will return to the center, OFF position, and the machine will immediately stop making fog, when the Fog Switch is released.

Changing Fluid

The Dusk consumes one liter of fluid per hour. When the fluid in the bottle has been depleted enough that the tube can no longer stay submerged, it is time to change fluid bottles.

It is recommended that you stop making fog when changing fluid bottles. Once fog production has halted, simply unscrew the fluid tube cap from the empty bottle and remove the tube. Take care to avoid dripping fluid onto the machine case or ground nearby, as it can be slippery. Replace the empty bottle with a new bottle of Rosco fog fluid, insert the fluid tube insuring that the filter at the end of the tube is fully submerged, and reattach the fluid cap. Resume making fog. Do not allow the machine to run dry of fluid.

Powering Down

After use, allow the machine to sit for several minutes before switching the Main Power Switch to off. Turning off the power switch during fog production can cause damage to the heat exchanger. Allow machine to cool completely before packing or storing. *Note: The nozzle of the machine may remain hot for up to 10 hours after power is shut off.*

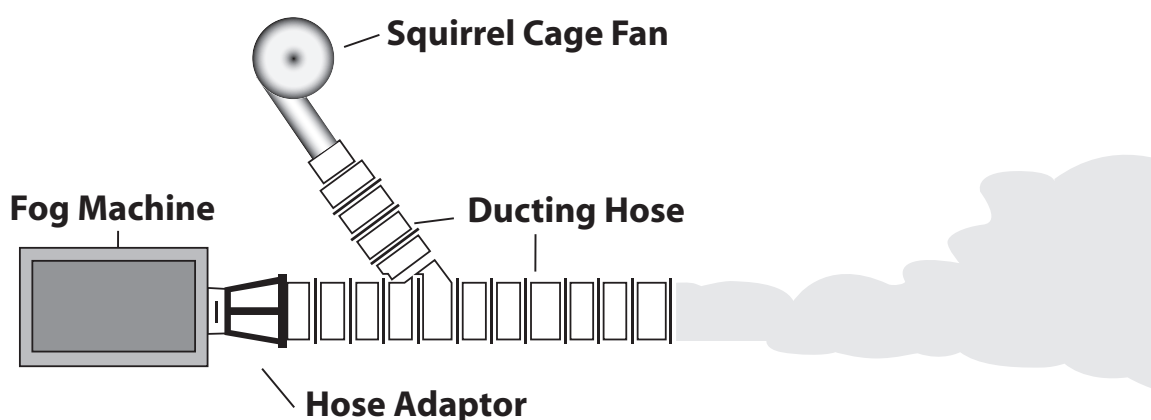
If the machine will be unused for an extended period of time, follow the Storage and Shipment instructions listed under Maintenance to prepare the machine for long-term storage.

DUCTING FOG

It is often desirable to duct fog from the machine to another location. This can be accomplished using flexible hose ("dryer hose") or similar large diameter ducting such as 4in (100mm) PVC. Avoid sharp bends in the duct, which can create turbulence or back flow.

The duct should be positioned no closer than 2in (50mm) to the nozzle. An open airflow between the nozzle and opening of the duct is crucial to allow for aerosolization and create proper airflow. Placing ductwork or tubing directly over the nozzle or nozzle guard will cause damage to the machine and will void the warranty. Take all precautions to avoid fire hazards as the nozzle is extremely hot.

In some instances, it is desirable to use a fan to accelerate the fog through the ductwork. Never run fog through the blades of a fan as the action of the impeller will cause condensation of fluid particles. To properly use a fan, create a vent in the ducting system such as a "branched wye" and introduce a fan at the vent point. This will create a low pressure point that "pulls or pushes" the fog through the ductwork.



Contact Tempest for more advice on ducting fog.

TROUBLE SHOOTING

Problem	Probable Cause(s)	Suggested Remedy
Machine does not heat up	Machine is not turned on	Ensure Main Power Switch is on
	No power at AC cable inlet	Check to make sure machine is plugged in properly. Check the circuit breaker.
	Machine has overheated and internal thermal fuse is blown	Contact nearest Service Center for repair
Machine does not produce fog when the Fog Switch on the remote control is pressed	Machine not turned on	Ensure Main Power Switch is on
	Machine not at operating temperature	Wait 7-10 minutes until green Ready Indicator light illuminates on remote
Fog output is weak	Fluid filter above fluid line	Ensure filter is submerged inside the bottle
	Heat exchanger is clogged	Contact nearest Service Center for repair

Additional help and information can be found by contacting Tempest.

MAINTENANCE

Before servicing the Shadow Dusk, read and observe all the precautions listed in the Important Safeguards section on pages 2-4 of this manual. *Note: Any service that is NOT described in the section below must be carried out by a Rosco service technician. Contact Tempest for more information on your repair and service needs.*

Exterior Cleaning

Excessive dust, fluid residue, and dirt build-up will degrade the performance of the machine and may cause overheating to occur. To maintain adequate air flow and cooling, the outer casing and air vents of the machine must be cleaned periodically. Damage caused by lack of cleaning is not covered by the product warranty.

- Unplug the machine from power and allow the unit to cool completely before cleaning. *Note: The output nozzle may remain hot for up to 10 hours after use.*
- Remove dust from the air vents with a soft brush, cotton swab, vacuum or compressed air.
- Clean any fluid residues from the fog output area of the machine using a damp cloth.
- Clean the outer casing with a damp cloth only.

Storage & Shipment

Before storing the machine for an extended period of time, ensure the following:

- Fluid bottle has been removed and securely capped
- Proper cleaning of exterior as described above
- Machine is properly boxed or covered to avoid dust build up on internal components
- If shipping, use original packaging or comparable protection to avoid damaging the machine in transit

SPECIFICATIONS

Physical

Length 15.75" (400 mm)
Width 7.54" (191.4 mm)
Height..... 8.21" (208.41 mm)
Dry weight.....11.9 lbs (5.4 kg)

Performance

Operating timecontinuous
Warm up time 8 minutes

Control and programming

Control options Remote

Fluid system

Capacity 1 litre
Fluid consumption 1 litre / hour

Connections

Remote.....IEC
AC power IEC

Electrical

AC voltage 120V / 230V, 50/60Hz

Thermal

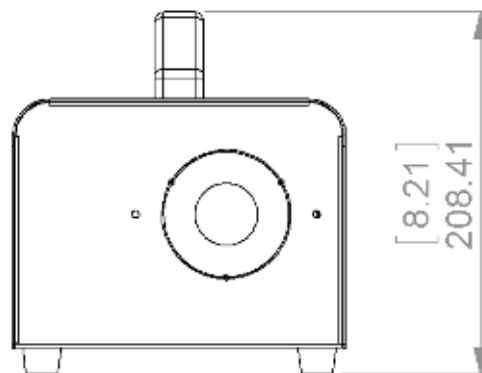
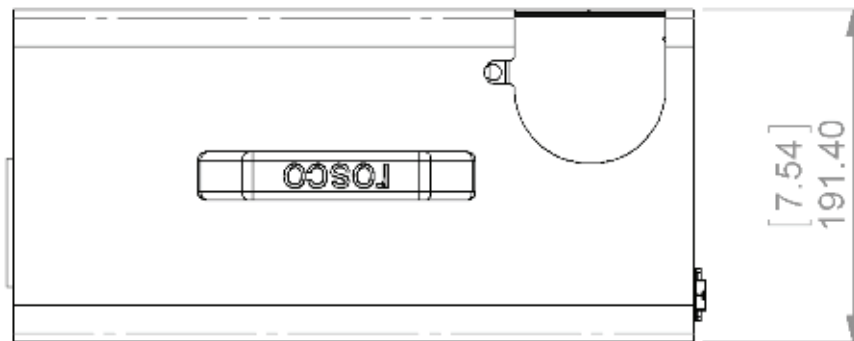
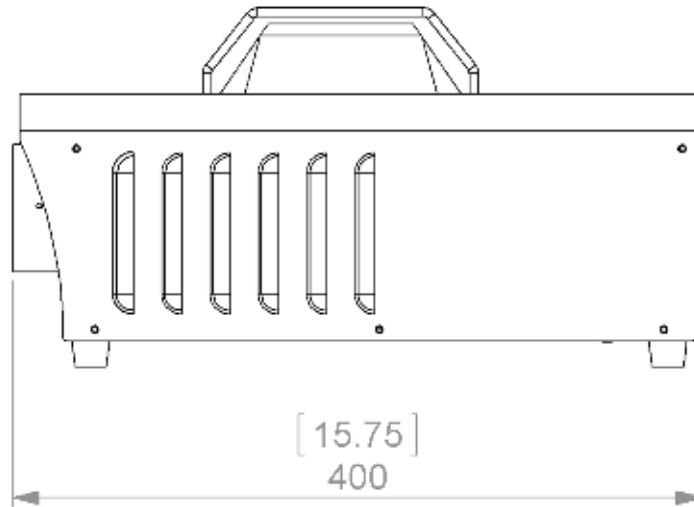
Maximum ambient temperature.....40°C (104°F)
Exterior surface temperature, steady state, at 20°C ambient.....40°C (104°F)

Approvals.....ETL approval (pending)

Information in this document is subject to change without notice and does not represent a commitment on the part of Tempest Technology Corp.

DIMENSIONS

Dimensions are shown in [inches] and millimeters



1 YEAR LIMITED WARRANTY

Rosco Laboratories warrants to the first retail purchaser that this Product will be free from defects in workmanship and material for a period of twelve (12) months from the date of original purchase. For warranty service you must be able to provide proof of purchase.

Should this Product prove defective during the warranty period, please contact your local Rosco office for return authorization. No warranty service will be performed without Return Authorization. At Rosco's sole discretion, covered Products will be repaired or replaced with new or refurbished equipment or a model of like kind and quality. Exchanged or replaced parts and Products assume the remaining warranty period of the original Product covered by this limited warranty.

You are responsible for securely packaging the defective Product and returning it to Rosco as per the instructions on the Return Authorization. Within North America, Rosco will ship the repaired or replaced Product to you freight prepaid. Shipments to other locations will be made freight collect. Do not return fog machines with fog fluid.

This warranty is not transferable and does not extend beyond the first retail purchase of the Product. This warranty does not cover damage to the Rosco product caused by parts not manufactured, distributed or certified by Rosco. Rosco is not obligated to provide warranty service should the product fail to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, improper shipping, damage caused by disasters such as flood, fire and lightning, improper electrical current or connection or service other than by a Rosco Authorized Servicer. If a claimed defect cannot be identified or reproduced, you will be held responsible for the costs incurred.

Unless otherwise stipulated by state law, all warranties expressed or implied are limited to the twelve (12) month period of this warranty.

THE WARRANTY AND REMEDY PROVIDED ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE. EXCEPT AS PROVIDED IN THIS WRITTEN WARRANTY AND UNLESS EXCLUSIONS ARE SPECIFICALLY FORBIDDEN BY STATE LAW, NEITHER ROSCO NOR ITS AFFILIATES WILL BE LIABLE FOR ANY LOSS, INCONVENIENCE, OR DAMAGE, INCLUDING DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING INJURY TO PERSONS OR PROPERTY, RESULTING FROM THE USE OR INABILITY TO USE THE ROSCO PRODUCT, WHETHER RESULTING FROM BREACH OF WARRANTY OR ANY OTHER LEGAL THEORY.

NOTE: USE OF ANY FLUID OTHER THAN A TEMPEST BRAND FLUID WILL VOID THE WARRANTY.



EC Declaration of Conformity

Date : 1 November 2014

Manufacturer : Rosco Laboratories, Inc.

Address : 52 Harbor View Avenue, Stamford, Connecticut 06902, U.S.A.
Tel : (203) 708 8900 Fax : (203) 708 8919 Eml : info@rosco.com

Product Name : SHADOW™ Dusk (by Rosco)

Product Type : Smoke Effects Machine

This product meets the requirements, where applicable, of the following EC Standards and as such, comply with the European Council Directive 2006/95/EC:

60335-1:2002 + A1:2004 + A11:2004 + A12:2006 + A2:2006 + A13:2008
Safety of household and similar electrical appliances
BS EN 62233:2008 Electromagnetic fields.

This product meets the requirements, where applicable, of the following EC Standards and as such, comply with the European Council Directive 2004/108/EC:

EN61000-3-3:1995 + A1:2001, Category II Flicker
EN 55014-1:2006 RF voltage (discontinuous)
EN 61000-3-2:2006 Electrostatic discharge to case
EN 61000-3-3:1995 + A1:2001 + A2 2005 Common mode fast transients (AC and DC ports)

Authorised Signatory : Joshua Alemany, Director of Global Marketing

Place and Date : Stamford, Connecticut - 1 November 2014

Signed:

