rosco

1600

FOG MACHINE

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INTRODUCTION

This manual offers a detailed explanation of the operation of the Rosco Model 1600 Fog Machine. To assure efficient and safe operation, please take the few minutes needed to read this material.

The Rosco 1600 Fog Machine is a thermal aerosol generator designed for steady fog output. It is part of a system, the other basic component being Rosco Fog Fluid, and they should always be used together. This unique fluid formulation must be used according to instructions. It contains no petroleum distillate. The operating temperature, pump pressure and output nozzle orifice of the machine have been specifically set to maximize aerosolization of the Rosco Fog Fluid. Used properly, the system should operate for many years.

IMPORTANT SAFEGUARDS

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

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 knnown asthmatics.

1. 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.
2. 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.
3. 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.
4. Do not operate the machine in a tightly confined space where temperature of the ambient air might exceed 135°F (57°C). A continuous flow of air is required to maintain temperature within machine housing. Sensitive components deteriorate rapidly under high heat conditions. Operation of the machine in an enclosure of less than ten cubic feet (1 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. Rosco recommends against it.
5. In any facility, the fog concentration should be controlled. The fog should never mask emergency exits, safety signs, staircases or other safety constructions.
6. After long use, or if the machine is not properly set, some liquid droplets or a wet area may appear in front of the fog outlet. This liquid should be wiped up to prevent a condition where someone might slip or fall.
7. 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. Under no circumstances should the unit be left heating in an unsupervised location.
8. During the warm up phase and during operations, people should not stand within one yard (1 m) of the front of the machine. Flammable material like paper, fabric, etc., should never be placed directly on or around this, or any other electrical device with a heating element.
9. 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.
10. Unauthorized repair or alteration, especially of the thermostat, heat regulation devices and other safety devices can lead to improper operation and accidents. Repairs should be performed **only** by an authorized Service Center.

WARNING: USE OF ANY FLUID OTHER THAN ROSCO FOG FLUID OR MODIFICATION OR ATTEMPTED UNAUTHORIZED REPAIR OF THE FOG MACHINE WILL IMMEDIATELY INVALIDATE THE WARRANTY.

HOW THE MACHINE PRODUCES FOG

Rosco Fog Fluid is pumped from an external reservoir into the heat exchanger where it is heated. When the heat exchanger has reached its operating temperature, the operator switches power to the siphoning pump, introducing fluid into the heat exchanger. The heated and pressurized liquid is then discharged through the nozzle into the atmosphere where it vaporizes and, upon mixing with cooler air, an aerosol is created consisting of millions of fine particles. NOTE: The terms "Fog" and "Smoke" are used interchangeably. However, the Rosco 1600 does not produce either fog or smoke, but a mist or aerosol.

OPERATING INSTRUCTIONS

1. **POWER HOOK-UP**

   Plug the power cord into a socket rated at the proper voltage and amperage. **The machine requires a dedicated power circuit.** Turn on the main power switch located at the rear of the machine. The green indicator light in the switch will light.

2. **REMOTE CONTROL**

   Plug the remote control into the socket on the back of the machine marked "Remote Control". **The Rosco 1600 Fog Machine will only operate from its remote control.** All indicator lights (except the power light) are located on the remote control.

3. **WARM UP**

   Let the machine warm up for about 5 minutes until the green "Ready" indicator light turns on. The green "Ready" indicator light will come on before the first heating cycle is over, so wait one minute longer before initial use. The machine is now ready to use, as long as the "Ready" indicator light remains on and the fluid reservoir contains fluid.

4. **FLUID DELIVERY**

   Push the rigid nylon fluid siphon tube into the "Fluid Inlet" fitting located on the top of the machine. Place the other end of the tube inside a bottle of Rosco Fog Fluid. To disengage the siphon tube from the machine, push the collar in and, while holding it in, pull the tube out of the fitting. A standard liter size bottle of Rosco Fog Fluid will fit in the cavity located in the rear of the machine. A cap is provided to fit on the same liter bottle.

   NOTE: The machine only works with uncontaminated Rosco Fog Fluid. Other fluids may cause spitting and serious clogging problems and could result in the production of an unhealthful aerosol. **The use of other fluids voids the warranty of the Rosco 1600 Fog Machine.**

5. **PRODUCING FOG**

   To produce fog, ensure that the remote control is attached. Move the "Fog" switch on the remote control to the "On" position for continuous fog. For bursts of fog, push the switch to the "Momentary" position as needed.

   To control the output, adjust the knob marked "Fog Volume Control". The numbers indicate the greater output as the knob is turned clockwise.

   NOTE: The Rosco 1600 is designed primarily for continuous output. Please note that when the volume control is set above seven, the machine may cool itself after 1 1/2 – 2 minutes of continuous output. If this occurs, the machine will re-heat in about 30 seconds to proper operating temperature.

6. **COMPRESSED AIR INPUT**

   The Compressed Air Input is located on the back of the machine. The addition of this input allows compressed air to be introduced directly into the heat exchanger making cleaning and maintaining the machine more efficient. The compressed air is connected to the machine via a 1/8" female legris quick disconnect fitting (included with the machine), 1/8" nylon tube, and a 1/8" MPT to 5/16" FPT reducer for air guns.

   Screw the reducer into your blow-gun. Connect the 1/8" tube to the reducer and the air input fitting on the back of the unit. Use low pressure to start and increase as needed.

   NOTE: Maximum air pressure should not exceed 35 PSI. Only "clean" filtered air should be introduced into the heat exchanger. This cleaning process must only take place when the power to the machine is turned off and the unit has no fog fluid remaining in the heat exchanger. This can easily be checked, make sure that the fluid supply tube is detached, turn the power to the machine on, the fog "on" switch should be in the "on" position. If the machine produces fog allow it to run dry, if no fog is produced turn the power to the machine off and allow to cool before beginning the cleaning procedure.

   Caution: Do not use compressed air to clean machine until heat exchanger is completely empty of fluid.

DO'S AND DON'TS

DO	Read the entire manual before operating the machine and pay particular attention to all CAUTIONS AND WARNINGS.
DO	Use ONLY Rosco Fog Fluid.
DO	Use an extension cord which is properly rated for voltage, current, and length which is free from nicks and other signs of wear.
DO	Before each operating period, check to see that the machine is clean and free of foreign objects.
DO	Test first for dry fog. Turn fog switch on. Place a piece of cardboard or paper 18" (50 cm) in front of machine. If the surface is at all wet return the machine to your dealer for servicing.
DO	Ensure that the machine is adequately ventilated.
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. This will lead to deterioration of the heating element.
DO NOT	Enclose the machine.
DO NOT	Install the machine in such a fashion that the operator cannot see the whole machine including indicator lights.
DO NOT	Touch the shielded nozzle of the machine. Allow sufficient cooling time after operation before attempting to perform maintenance.
DO NOT	Direct the fog continuously against the same spot. This may eventually cause fog fluid to recondense on walls, furniture, sets, etc.

READ THE COMPLETE MANUAL TO INSURE SAFE OPERATION.

MAINTENANCE

1. The main fuse is located on the back of the machine. To remove or replace, unscrew the grey cap counter-clockwise. It will spring "out" once turned. Remove old fuse and replace.

   WARNING: DISCONNECT THE FOG MACHINE FROM POWER BEFORE OPENING THE COVER. FAILURE TO DO SO COULD BE HAZARDOUS AND RESULT IN AN ELECTRICAL SHOCK.

2. After every operation, the siphon hose should be removed from the reservoir. The machine should then be turned on and fog produced. When there is no more fog coming out of the machine, it can be turned off.

3. After every operation, **only after the machine has cooled,** it should be wiped with a clean, damp cloth or paper towel. This practice prevents the build up of dirt and dust which may enter the machine and damage sensitive internal components. Do not use solvents for cleaning. Soap and water are effective.

4. Before and after the machine is stored for an extended period, the machine should be properly cleaned. Distilled water should be placed into a clean fluid container and the machine flushed clean for at least three minutes. In addition compressed air can be used to clean the machine. This is done by attaching a compressed air line to the machine via the 1/8" legris fitting located on the back of the machine and the reducer connected to your air gun. The heat exchanger should be empty of fog fluid before the air line is attached and no more than 35 PSI should be pumped through the machine. For more details see Operating Instruction 6. The machine can then be used or stored.

   Caution: Do not use compressed air to clean machine until heat exchanger is completely empty of fluid.

5. During use, operation of all switches and indicator lights should be monitored. Lights that blink or flicker when they should be on or off, for example, are an indication of problems in the machine's circuitry.

FOG DISTRIBUTION

The fog distribution in an enclosed area depends on air flow and temperature. Natural air movement, air conditioning and other ventilation systems will affect movement of fog. Test under realistic conditions before using. If a space must be filled with fog very quickly, move the machine up and down and side to side. To conduct fog to particular areas, use a Rosco hose adapter and ducting hose. Make sure that there is a space between the fog outlet and hose to permit air flow. The fog machine works properly only in a horizontal or slightly tilted position (approximately a 15° to 30° angle of inclination).

To achieve colored fog use spotlights and Rosco Color Filters. Do not add any colorants to the fluid.

For assistance in dealing with unusual fog or smoke requirements, consult a distributor or a Rosco office.

REPAIRS

If the machine fails and repairs are required, call or write the nearest Rosco office (listed below) for the name of a Rosco Repair Center near you.

Rosco Laboratories, Inc.
36 Bush Avenue
Port Chester, NY 10573
(914) 937-1300
1 (800) ROSCO NY

Rosco Laboratories, Inc.
1135 North Highland Avenue
Hollywood, CA 90038
(213) 462-2233
1 (800) ROSCO LA

Rosco Laboratories, Ltd.
1271 Denison Street #66,
Markham, Ontario,
Canada L3R 4B5
(905) 475-1400

Roscolabs, Ltd.
Blanchard Works,
Kangley Bridge Road,
Sydenham, London,
SE26 5AQ England
(181) 659-2300

Rosco Iberica, S.A.
C/Del Oro 76A,
Pol. Industrial Sur,
28770 Colmenar Viejo,
Madrid, Spain
(341) 846-3602

Rosco Portuguese Ltda.
Trav. Bento Gonçalves,
6B. Bairro de Angola
Camarate, Sacavem 2685
Portugal
(3511) 947-2237

Rosco do Brasil Ltda.
Rua Antonio De Barros, 827
CEP 03401-000
São Paulo - SP, Brasil
(011) 218-2865

Rosco Australia Pty Ltd.
42 Sawyer Lane
Artarmon 2064
N.S.W. Australia
(02) 9906-6262

Rosco Service Center
3055 Del Sol Blvd.
San Diego, CA 92154
(619) 423-1928
(800) 468-0114

RETURNS

1. Call the nearest Rosco office for shipping instructions.
2. Remove all Rosco fluid from the machine.
3. Pack carefully and ship (in the U.S.) via UPS or parcel post pre-paid. Insurance is suggested.
4. Attach a letter to the top of the machine explaining the problem in detail.
5. Enclose of copy of Rosco invoice or other proof of purchase.
6. If machine is out of warranty, an estimate of repair cost will be provided **on request**. Otherwise, repairs will be accomplished and billed.
7. When ready, the machine will be returned (in the U.S.) via UPS.

STORAGE AND SHIPMENT

If you do not anticipate using your machine for an extended period, prepare your machine for storage as follows:

1. Perform maintenance as outlined in "Maintenance" section.
2. Fog one half pint of clean distilled (note: de-ionized) water through the machine to flush the internal passages. Then allow the unit to pump air for one minute after the fog stops coming out. Or purge the system with compressed air (see section 6, Compressed Air Input).
3. Wipe the outside of the machine clean.
4. Store in a sealed cardboard box.
5. Whenever the unit is shipped, considerable care should be taken in packing to avoid damage in transit.
6. For touring, custom designed road cases are available from your Rosco dealer. Do not use the shipping carton for touring.

LIMITED WARRANTY

Rosco Laboratories, Inc. warrants to the original purchaser that the Rosco Model 1600 Fog Machine will be free from original defects in workmanship and material for a period of six months from the date of purchase. During the warranty period, machines will be repaired or replaced at the option of Rosco.

If the purchaser returns a completed registration card to Rosco within 30 days of purchase, Rosco will extend the limited warranty on the pump assembly and the heat exchanger assembly to a **FULL YEAR** from the date of purchase. If the warranty card is not received by Rosco, the warranty will remain effective for six months.

The warranty does not extend to any parts of the Rosco Model 1600 Fog Machine that have been subject to misuse or accident. Neither does the warranty cover any Rosco machine that has been opened, modified, or repaired other than by Rosco or its designated repair station.

The warranty will not apply if the procedures described in the Instruction Manual are not followed. It is the user's obligation to clean and maintain the Rosco Model 1600 Fog Machine according to these instructions, and to follow acceptable practices for handling electrical devices with heating elements.

USE OF ANY FLUID OTHER THAN ROSCO FOG FLUID WILL VOID WARRANTY.

TECHNICAL SPECIFICATIONS
MODEL 1600

POWER REQUIREMENTS
120 volts, 50/60 Hz, 11.75 amps
220/240 volts, 50/60 Hz, 7.5 amps
100 volts, 50/60 Hz, 13.5 amps

MAX. CONSUMPTION
2.5 liters per hour
63 cc per minute

PARTICLE SIZE
0.25-60 microns

WEIGHT
21 lbs.

WARM UP TIME
5 minutes (approx.)

FUSE TYPE
100 volt-ABC 15
120 volt-GLH 10
240 volt-GDB 6.3

DIMENSIONS
18.75" x 8.25" x 6.25"
48 cm x 21 cm x 18.5 cm

REMOTE CONTROL
24V DC System
Fog Switch, fog light and ready light
Cord: 15'

OPTIONAL ACCESSORIES

HOSE ADAPTER
Connects ducting hose to machine.
Dimensions: 4" x 6.75" (10.2 cm x 17.14 cm)

DUCTING HOSE
Flexible. plastic hose, connects to adapter for ducting of fog.
Dimensions: 4" x 25' (10.2 cm x 7.62 m)

SUPER REMOTE CONTROL
24V DC System
All functions of the Standard Remote plus a programmable output control. Programmable sequencer will create fog at preset intervals and control the duration of the bursts.

DMX INTERFACE
24V DC System
Allows control of the Model 1600 from a control console using DMX 512.