PF-1000
FOG MACHINE

Operating Instructions

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ROSCO PF-1000 FOG MACHINE
Operation Manual

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INTRODUCTION

This manual offers a detailed explanation of the operation of the ROSCO PF-1000 Fog Machine. To assure efficient and safe operation, please take a few minutes to read this material.

The ROSCO PF-1000 Fog Machine is a thermal aerosol generator designed for low fog output. It is part of a system, the other basic component being the full line of Rosco fog fluids, and they should always be used together. These unique fluid formulations are safe when used according to instructions. They are water-based and contain no petroleum distillate. The operating temperature, pump pressure, and output nozzle orifice of the machine have beeen specifically set to maximize aerosolization of the Rosco fog fluids. When 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.

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.

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 the ambient temperature might exceed 40°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 tempearture of the enclosure. To do so with any high-amperage device is to assume substantial risk. Rosco strongly 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 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.

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.

8. During the warm-up phase and during operations, people should not stand within 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.

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 haze could react on very hot surfaces and be burnt or decomposed.

10. 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.

WARNING: USE OF ANY FLUID OTHER THAN ROSCO FOG FLUIDS OR MODIFICATION OR ATTEMPTED UNAUTHORIZED REPAIR OF THE ROSCO PF-1000 WILL IMMEDIATELY INVALIDATE THE WARRANTY.

HOW THE MACHINE WORKS

When the heat exchanger has reached proper operating temperature, the operator switches power to the siphoning pump, which draws the fog fluid from an external reservoir and sends it up a tube into the heat exchanger. The fluid is rapidly heated and vaporized. The vaporized fluid is then discharged through the nozzle into the atmosphere where, upon mixing with the cooler air, it turns into an aerosol consisting of millions of fine particles.

NOTE: The terms “fog” and “smoke” are used interchangeable. However the ROSCO PF-1000 does not produce smoke, but a mist or aerosol.

COMPONENTS

Control Module (120 volt or 240 volt)
Head Assembly (120 volt or 240 volt)
Power Cord
15’ (5.47m) Head Cable
15’ (5.47m) 1/8” Nylon Tube (Quantity 2)
Fluid Assembly
Air Input Assembly
Air Input Fitting (for Head Assembly)
7-pin Male XLR Connector

WARNING: COMPONENTS OF DIFFERENT VOLTAGES ARE NOT INTERCHANGEABLE. MAKE SURE THAT ALL ELECTRICAL COMPONENTS ARE RATED AT THE SAME VOLTAGE.

SET-UP INSTRUCTIONS

1. HEAD ASSEMBLY CONNECTION

Connect the Control Module to the Head Assembly using the 15’ Head Cable. The connection is a screw type Amp connector. **NOTE:** Be sure that the connection is fully seated and screwed in place. Next take one of the Nylon Tubes and push one end into the fitting on the rear of the Head Assembly and the other into the small fitting on the Control Module. To engage the tube properly, push the tube into the fitting until there is some resistance. Push against the resistance until fully seated. **NOTE:** Do not push the tube too hard as it might become damaged.

2. POWER HOOK-UP

Plug one end of the power cord into the dedicated socket located on the rear of the machine and the other end into a socket rated at the proper voltage and amperage. The machine requires a dedicated power circuit.

3. FLUID CONNECTION

Push the ¼” Tubing onto the metal quick disconnect. The push the metal quick disconnect into the fitting on the Control Module until the tab snaps into place and the fitting is firmly seated. Place the other end of the tube into a bottle of one the Rosco fog fluids.

4. AIR INPUT (Optional)

The PF-1000 comes with an Air Input Kit which can be used for fog effects or, more importantly, to clean the machine using compressed air. To install the Air Input Kit, remove the small brass screw plug on the back of the Head Assembly. Screw the brass Air Input Fitting into the hole where the plug was located. Insert one end of the 1/8” Nylon Tube into the Air Input Fitting by simply pushing until there is some resistance. Do not push too hard. Insert the other end of the tube into the Air Input Assembly. Connect one end of the 2-pin cable provided into the 2-pin connector on the back of the Head Assembly and the other end to the 2-pin receptacle at the Air Input Assembly. Attach compressed air to regulator on the Air Input Assembly using a ¼” industrial connector.

OPERATING INSTRUCTIONS

1. POWER

Open the Control Module. Turn the POWER switch on. The red HEATING light will be lit.

2. WARM UP

In approximately three (3) minutes, the Heater Assembly should reach minimum operating temperature and the green READY light will turn on. For maximum efficiency, wait until the red HEATING light is off before applying fluid to the machine.

3. PRODUCING FOG

To operate the machine directly from the Control Module switch the LOCAL/REMOTE switch to the LOCAL position. The amber LOCAL light will illuminate. Turn the FOG switch to the ON position. To vary the fog volume turn the VOLUME CONTROL knob until the desired output is achieved. **NOTE:** The first time that the machine is used (or after it has run out of fluid) the 15' fluid tube may be empty and it will take a some time to fill it with fluid.

4. REMOTE CONTROL OPTIONS

The PF-1000 has a variety of remote control options including show control. To use any of the remote control options, the LOCAL/REMOTE switch must be moved to the REMOTE position. **NOTE:** The PF-1000 does not have a remote control included, but any of the following can be ordered from a Rosco dealer.

Standard Remote: The PF-1000 can be used with a Standard Remote Control (#217116001070). This remote will allow the machine to make fog and control the fog output.

Super Remote: In addition to fog volume control, the Super Remote Control (#200516500000) has timers to allow the PF-1000 to cycle the fog on and off.

DMX Interface: The DMX Interface (#200516800000) allows the PF-1000 to operate from a control console that uses a standard USITT DMX signal.

Show Control: Carefully wire the enclosed 7-Pin Male XLR Connector using the following pin configuration. The minimum connections are pins 1 & 6 and pins 4 & 5. The internal voltage is nominally 24VDC, but can vary. NOTE: If an external 24VDC is desired, eliminate pin 1. However it is important that the external power supply match the internal DC voltage.

PIN DESIGNATION

1. 24V + (positive)
2. 24V + (positive) return to air solenoid (see below)
3. Ready Light Signal
4. Volume Control signal out
5. Volume Control signal return
6. 24V + (positive) return to pump
7. 24V – (negative)

5. AIR INPUT KIT (Optional)

To operate the air solenoid locally, push the SOLENOID button in the Control Module. To opearte the air solenoid remotely, connect a switch through the supplied 7-Pin Male XLR Connector using pins 2& 7.

DO'S & DON'TS

DO	Read the entire manual before operating the machine and pay particular attention to all CAUTIONS AND WARNINGS.
DO	Use ONLY Rosco manufactured fog fluids.
DO	Use an extension cord which is properly rated for voltage, current and length and which is free from nicks or 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 the FOG switch on. Place a piece of cardboard or paper 50 cm in front of the 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	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 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 fluid to recondense on walls, furniture, sets, etc.

READ THE COMPLETE MANUAL TO INSURE SAFE OPERATION.

MAINTENANCE

1. The main fuse of the ROSCO PF-1000 Fog Machine is located in the Control Module. **NOTE:** Be sure to check the specifications when replacing any fuses.

WARNING: DISCONNECT THE ROSCO PF-1000 FROM POWER BEFORE CHECKING OR REPLACING THE FUSE. FAILURE TO DO SO COULD BE HAZARDOUS AND RESULT IN AN ELECTRICAL SHOCK.

2. After every operation, compressed air should be run through the Heater Assembly to clean out the heat exchanger. **CAUTION: Only run compressed air when the machine is on and the green READY ligtht is on.**

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. The best method for cleaning is using distilled or de-ionized water. To flush the machine, turn it on and, when ready to use, put the fluid pick-up tube into a container of distilled or de-ionized water. Run the water through the machine and flush for three minutes. The tube should be removed from the water and the machine run until nothing comes out of the nozzle. The machine should be **immediately** turned off.

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. Make sure that there is an air space of 1-3 inches between the nozzle and any ducting hose. Do not use ducting hose smaller than 3 inches in diameter. The ROSCO PF-1000 works properly in a horizontal position. Do not tilt the machine during operation.

ROSCO OFFICES WORLDWIDE

If the machine fails and repairs are required, call or write the nearest Rosco office (listed below) or your local Rosco dealer.

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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. Wipe the outside of the machine clean.

3. Store in a sealed cardboard box.

4. Whenever the unit is shipped, considerable care should be taken in packing to avoid damage in transit.

LIMITED WARRANTY

ROSCO LABORATORIES warrants to the original purchaser that the ROSCO PF-1000 will be free from original defects in workmanship and material for a period of twelve months from the date of purchase. During the warranty period, machines will be repaired or replaced at the option of Rosco.

The warranty does not extend to any parts of the ROSCO PF-1000 that have been subject to misuse or accident. Neither does the warranty cover any machine that has been opened, modified or repaired other than by Rosco or its designated repair station.

The warranty will not apply if procedures described in the Operations Manual are not followed. It is the user's obligation to clean and maintain the ROSCO PF-1000 according to these instructions, and to follow acceptable practices for handling electrical devices.

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

ROSCO PF-1000
TECHNICAL SPECIFICATIONS

POWER REQUIREMENTS
120 volts, 50/60 Hz, 2.8 amps
230 volts, 50/60 Hz, 1.8 amps

PARTICLE SIZE
0.25-60 microns

DIMENSIONS
Control Module
10.12 in. x 12.12 in. x 5.12 in.
25.7 cm x 30.78 cm x 13.0 cm
Heater Assembly
10.0 in. x 2.9 in. hexagonal
25.4 cm x 7.4 cm hexagonal

WEIGHT
Control Module
17.5 lb.
7.95 kg
Heater Assembly
0.75 lb.
0.34 kg

MAX. FLUID CONSUMPTION
8.0 ml/minute

OPTIONAL ACCESSORIES

STANDARD REMOTE CONTROL
Allows fog to be turned on and off and volume control of machine to be operated from remote location.

SUPER REMOTE CONTROL
Allows fog to be turned on and off, volume control, and cycling of machine to be operated from remote location.

DMX INTERFACE
Allows machine to be operated from lighting control console.