

# INSTRUCTION MANUAL

## CIRRO MK 3/TYPE 2 MIST GENERATOR

### **INTRODUCTION**

The Cirro MK 3 is a fully professional mist generator for producing sufficient airborne reflection particles to enable effect lighting to be seen. It is equally at home in both the large arena, film and TV studios. The unit is totally self contained, and all that is required for operation is a supply of mains power and sufficient oil in the tank.

The Cirro MK 3 has been developed from the well established Cirrus generator which has been extensively used by many TV, film, promotional and touring rock shows. It has been COSHH tested and approved for use in areas of public entertainment.

To ensure proper operation it is advisable that you read fully the following information and fully understand the method of achieving proper distribution of the mist, and at the proper concentration.

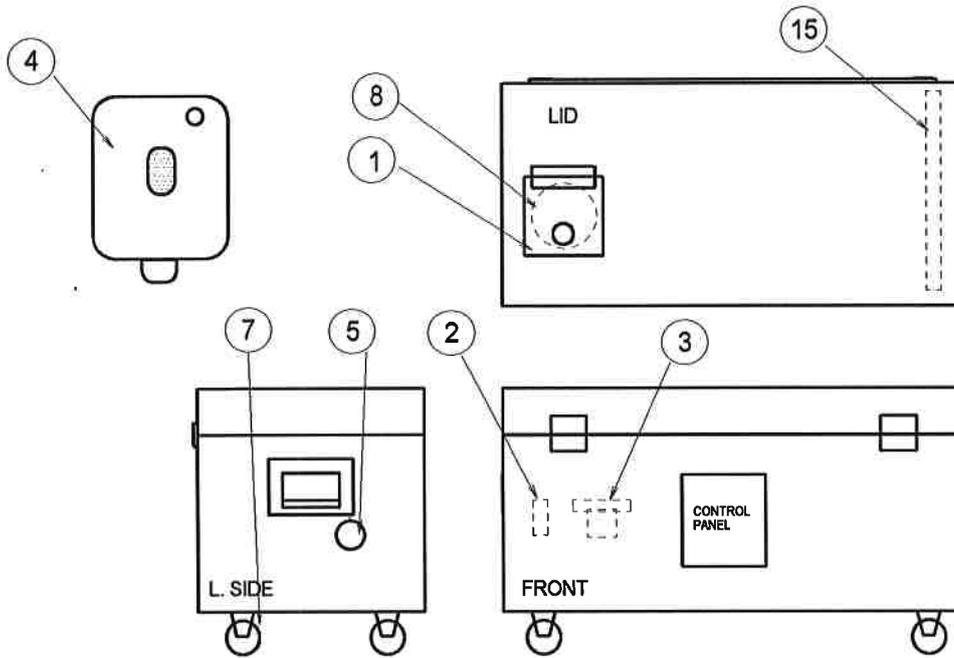
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### **UNPACKING**

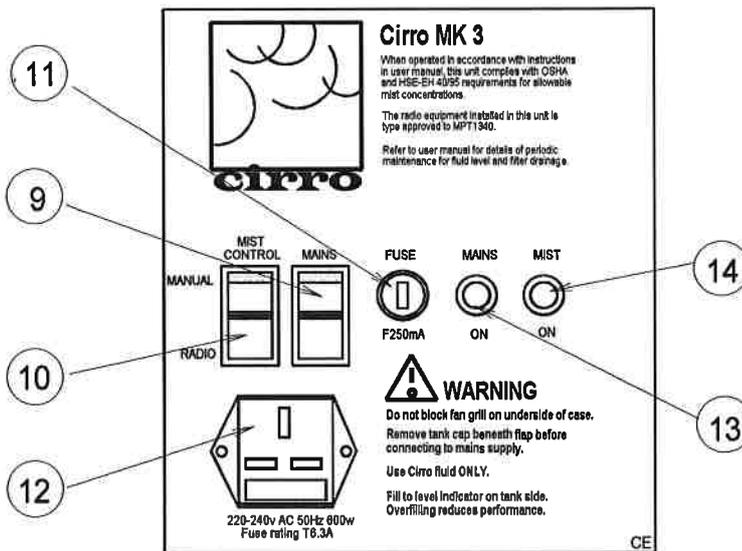
As part of our quality control system this product is carefully checked prior to dispatch . Supplied with your MK 3 generator will also be the small hand held radio remote control pendant. In addition an extension hose will have been provided should this have been requested on your order. Please check that you have received these items, and contact your dealer immediately should this not be the case, or should the unit have suffered transit damage.

**WARNING:** Do not connect power to the unit and switch on until you have read through the mains power and operating instruction section of this manual.

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**EXTERIOR VIEW OF CASE AND REMOTE CONTROL PENDANT**



**CONTROL PANEL**

## CONTROLS AND DESCRIPTIONS

Please refer to the drawings on page 2.

1. Funnel vent door. Lift up for operation and to access funnel cap.
2. Air line quick disconnect coupling to allow tank removal. Located inside trunk.
3. Air line filter for water vapour removal. Located inside trunk.
4. Remote control pendant for radio operation of machine. .
5. Viewing window for fluid level inside tank.
7. Trunk wheels. Two diagonal wheels have locking brakes.
8. Funnel cap located in funnel. **Be sure to remove this** before operation of machine, and refit during transit, or during long periods of non operation..
9. Mains On/OFF switch.
10. Mist control switch for selection of manual or radio remote control.
11. Low power fuse for protection of control electronics. F250mA, 250v AC
12. IEC 320 mains power inlet connector with inlet fuse T6.3A 230v AC setting
13. Mains indicator. Will illuminate when power is connected and mains switch is ON.
14. Mist indicator. Will illuminate when mist is being generated.
15. Air vent on internal lid. Do not obstruct air flow or block the vent.

## MAINS POWER

The generator is designed to operate off a single phase 220-240V 50 Hz <sup>1</sup> AC supply capable of supplying a minimum of 4 amps. The connector is the standard 3 pin IEC320 with integral inlet fuse. This should be T6.3A for 230v ac operation. Ensure adequate cable thickness and current rating should long extension cables be required.

**WARNING:** You must always connect the unit to a 3 wire grounded AC supply. The centre pin of the connector is the safety ground terminal. It is essential for personnel safety as well as proper operation of the unit that this pin is properly terminated to a safety ground system.

The small fuse holder provided on the units control panel is providing protection for the internal electronic control systems. This fuse is rated at 250vAC F250mA. If this needs to be replaced it is essential for proper protection that it is replaced with one of the same specification. These can be obtained from your dealer if necessary. Should the fuse continue to blow, then internal damage has occurred and you must return the whole unit to your dealer for service.

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## OPERATION.

**WARNING:** Before applying power to the unit and switching on, open the funnel door and remove the red plastic funnel cap (1,8). Keep this in a safe place and be sure to replace it during transit, or during long periods of non operation.

1. For use without an airline hose extension, position the case in a cool area with good ventilation.
2. Open the flap (1) and remove the red cap (8). Check the oil level to be within the lower and upper limits on the viewing window (5). Refer to routine maintenance section of this manual if necessary.
3. Ensure both control panel switches (9,10) are off (up position) and connect the mains supply to the control panel connector (12).
4. Select the required control mode via switch (10).

**MANUAL MODE**, switch down. In this mode the unit can be operated by switching ON or OFF the mains switch (9). It is also acceptable to control the unit by switching ON or OFF the mains power to the unit.

**RADIO MODE**, switch up. In this mode the ON/OFF operation of the unit will be controlled by the wireless remote. The small hand held pendant is the controller, with the left hand button being used for ON, and the right hand button being used for OFF. These switches are momentary in action, and to preserve battery life they should only be depressed for a time sufficient to operate the unit. Please experiment first to check that your operating distance is within the capabilities of the receiver. In most venues this will be up to 25 metres, line of sight.

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<sup>1</sup>110v and 60Hz versions available to special order.

5. Having selected the required mode, switch on the mains power by depressing switch (10). The red light (13) will illuminate. Operation of the unit will be confirmed by the green light (14) illuminating, and a fine even mist will emerge from the funnel.
6. Avoid operating the unit such that the room or venue becomes too heavy with mist. The maximum acceptable level will be when the mist is just visible to the eye. Please refer to the useful tips section of this manual.
7. **EXTENSION HOSE.** The CIRRO MK3 tank can also be operated remotely from the trunk. A standard 16 metre extension is available as an optional extra. First switch off the mains power and then disconnect the air line at the quick release coupling by pushing down the outer ring. Lift the tank clear of the compartment and position where required. Reconnect the air supply using the extension hose and then operate the unit as described above.

**WARNING:** Do not operate the unit with the air line blocked. This will put undue strain on the compressor and shorten its working life.

**WARNING:** It is most important that water vapour does not mix with the oil in the tank. Should the extension hose be particularly cold and there is the possibility of water vapour forming then it should be flushed out prior to connection to the tank by running the system with the tank disconnected until all moisture is expelled.

8. Never tip the trunk off its wheels and when in transit use the two corner locking wheels (7) or straps to ensure proper containment.

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## USEFUL TIPS

1. Always use the Cirrus fluid. Operation with any other liquid will invalidate the guarantee and invalidate the COSHH health and safety approvals for the unit.
2. The CIRRO MK 3 machine incorporates the CIRRUS system which has been COSHH tested in the UK. It is on the approved list for use in areas of public entertainment.
3. The machine will provide a fine even mist. The recommended level for use in an eight hour day is 5mg/CuM (reference OSHA), and this represents a fine mist, NOT fog or smoke. When the mist is just visible with the eye, this represents a maximum working concentration.
4. Position the tank or case downwind of the prevailing draught. If required an additional fan can be used, but this must always BLOW the mist. Never extrude the mist through the fan as this will result in loss of output and heavy oil build-up on the fan blades.
5. The mist will always rise or fall to the coolest areas. In very humid conditions use of a heavy duty fan might be required to avoid the mist becoming localised.
6. Never use a hose on the funnel output (1) as this will result in loss of output.

7. It is **NOT** important to position the tank near to where the mist is required as this type of effect is ambient rather than localised.
  8. When the desired effect is achieved, switch the machine off, and then top up as necessary. Do not just leave the machine running as this will result in too high a concentration of mist. Since the desired effect will be dependent on the Directors requirement and ambient conditions of temperature, humidity and prevailing draughts, it is suggested that some experimentation is carried out prior to use.
  9. **NEVER** block the supply of air to the fan located on the underside of the trunk. This is essential for the cool operation of the compressor as well as providing the air for the compressor input.
  10. **NEVER** block the flow of air exiting from the vent on the internal lid (15). Should it not be required for dispersal of the mist, then it is quite safe to operate the machine with the trunk lid in the open position.
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## **ROUTINE MAINTENANCE**

1. **OIL LEVEL** . Check oil level in tank before use. For correct operation the level should be within the upper and lower limits of the viewing glass, however no damage will be done by over or under filling. Oil is added through the top funnel.
2. **AIR FILTER**. After eight hours of continuous use check that the water is draining correctly from the filter bowl. An automatic system is employed where the water will drain through the pipe onto the floor when the machine is switched off. When it is operating, the drain will automatically block, and any filtered water will collect in the bowl until the next 'off' period. Should the automatic drain system *not* be required, it can be blocked by rotating the knurled knob on the base of the filter bowl in an anticlockwise direction when viewed from the top.
3. **COOLING FAN**. Check that the fan is running correctly and that it is free of dirt and dust. The internal heat exchanger has an over temperature cut-out system which will switch off the mains supply to the compressor, should internal temperatures exceed safe levels.
4. **COMPRESSOR**. There is no routine maintenance required and no attempt should be made in any way to oil or service this unit. The compressor motor has its own over temperature cut-out system to protect it from excessive heat.
5. **TANK**. There is no routine maintenance required. Should the level of mist become decreased over time then the internal nozzles might have become blocked or the airline filter element might need changing. Assistance should be obtained from your local distributor quoting the units serial number.
6. **REMOTE CONTROL PENDANT**. Over time the internal batteries will need changing. Please consult your local distributor for service.
7. The units serial number is located under the compressor compartment lid, on top of the control panel rear box.

## **SAFETY FEATURES**

The internal compressor generates substantial heat and it is most important for trouble free operation of both the compressor and the tank that this heat is efficiently removed. A high capacity fan is incorporated into the base of the trunk which not only supplies cooling air for the compressor, but also for the compressed air heat exchanger.

**WARNING:** Do not obstruct the entry of air to the underneath of the trunk.

As a safety feature, should the fan become blocked, or fail, then internal temperature sensors will automatically switch off the mains power to the compressor. The electric motor of the compressor also provides its own temperature cut-out. Should either of these come into operation then they will automatically restart the compressor once it is safe to do so. An examination should also be made to determine the cause of the overheating.



## **TECHNICAL DETAILS**

**SIZE:** 550mm high (incl. wheels) x 410mm deep x 830mm long.

**WEIGHT:** kg.

**MAINS:** 220-240vAC 50 Hz at 4 amps continuous.<sup>2</sup>

**FUSE:** Mains inlet T6.3A for 230vAC setting. Low power fuse for control electronics F250mA

**PENDANT BATTERIES:** 1 off 12v alkaline cell.

**RADIO SYSTEM:** 418MHz +/- 75kHz. 250uW nom. Approved to MPT1340 license exempt.

**OPERATING TEMPERATURE:** 0 to + 35degC.

**RADIO OPERATING RANGE:** 25 meters line of sight maximum.

**FLUID:** COSHH approved proprietary CIRRUS oil

The MK3 mist generator conforms to the requirements for CE marking.

V1.4 12/97. The MK3 mist generator is designed and manufactured in the UK. We reserve the right to alter specifications without prior notice.

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<sup>2</sup>Consult the factory for 110v and 60Hz versions..