

1. Introduction

The hazer is a powerful hazer.

The machine can be used in many fields of operation and is providing excellent support for lighting effects.

2. Safety Instructions

A fog machine is not a toy!

2.1 Risk of getting burnt and general safety

- Very hot steam escapes from the nozzle. Risk of getting burnt.
- Occasionally very hot droplets of fluid may escape when in operation. Thus never aim at persons directly and keep a minimum distance of 3 m to the nozzle.
- Never touch the nozzle when in operation. Risk of getting burnt.
- The location for the machine must be non-flammable, non-combustible and not sensitive to heat. It has to be twice as big as the machine.
- Keep a minimum distance of 60 cm to all flammable, combustible objects and objects sensitive to heat.
- Glycol is alcohol and burns with a slightly bluish, almost invisible flame. Never point the haze at strong sources of ignition like fire or pyrotechnic effects.
- Never open the machine and leave the machine unattended when connected to a power supply.
- The visibility has to be more than 2 m in rooms where people walk around.
- Only use the supplied hazer liquid. Other types of fluid do not generate the haze you require and destroy your fog generator.
- Do not swallow the fog fluid. Keep it away from children. In case of eye contact, rinse with a lot of water. Consult a doctor should you have accidentally swallowed some fluid.
- Spilled fluid or splashed fluid droplets can cause slip hazard. Mop up the fluid and dispose of it according to regulations. hazer*liquid is completely watersoluble and biodegradable.
- Haze may activate smoke detectors.

Artificially-made fog can be produced in many different ways. The method used here to produce fog, with a device which works according to the vaporizer principle, is the most harmless one.

No case has so far been reported in which a healthful human being has been harmed because of using our device to produce artificial fog (haze). However, this can only be guaranteed if the professional fog generators (hazers) are used accordingly, i.e. at the correct vaporization temperatures as well as with the correctly mixed fog fluid.

We, however, recommend: **People with health problems or problems of the respiratory tract or with an inclination for allergies should avoid any contact with artificially-made fog (haze).**

3. Operating the hazer

3.1 Selection of the location

The location in which the hazer will be used has to be

dry

free from dusty or polluted air

free from vibrations

non-flammable place and surrounding

well-ventilated with haze-free air

keeping the ambient operating temperature between 10°C and 40°C and the relative humidity below 80%.

3.2 Changing the fluid bottle, haze liquid and liquid consumption

Disconnect the fluid tube from lid by retracting the brass collar and removing the brass coupling
Remove the container from flightcase.

Unscrew the lid from the empty container and screw it onto the new container.

Place the full container into the flightcase. **!Please note:** Keep the lid of the full container a little open when putting it back into the flightcase to allow the air to disappear!

Push the brass coupling into the brass collar until you will hear a click. The brass collar is now locked firmly.

The hazer*liquid for use in the hazer is available in 5-ltr. – and 25-ltr.-bottles and 200-ltr.-barrels. You will find the Material Safety Data Sheet for hazer*liquid and Document of Compliance

To guarantee the trouble-free operation of the hazer only the special hazer*liquid has to be used. Use of other liquids will void the manufacturer`s warranty and can be dangerous to your health.

!PLEASE NOTE: The vaporizer of our machines does not have to be cleaned!
Cleaners, available on the market, can damage the vaporizer! We cannot grant warranty in this case.

When operating on 99% pump output the hazer will consume 0,6 ltr. / hour and on an output up to 5% the consumption will be 0,04 ltr. / hour.

4. Operating the hazer

From the finest mist to a thick haze any desired effect can be achieved. These haze effects form slowly so that the device should be switched on some time before the lighting or laser will start to operate.

!Important: Do not connect a ducting to the nozzle of the hazer. If a ducting is connected directly to the machine the haze will be pushed back into it. This may damage the machine. We cannot grant guarantee in this case!

5. Putting into operation

!Attention: Never connect the hazer to a dimmer or switchpacke. This may destroy the machine!

a. Connect the power plug to the mains supply. Make sure the correct voltage is selected.

A P and two figures will appear on the LED-display.

b. After 60 Seconds, the **hazer** is heated up. Press the Enter-button once to start the haze process. The green Active-LED will be lit. After a short delay the machine will start to haze.

After 30 Seconds the display will go dark. To re-activate it, press one of the buttons on the display.

5.1 Switching the device off (general)

a. Press the Mode button till „OFF” will appear on the display. After 15 Seconds the machine will switch into the post-run-mode automatically. On the LED display lines appear which move from upper left to the lower right while the heater is cooling.

When the heater is cooled down, a red decimal point will appear on the right bottom edge of the display.

b. When you switch off the DMX signal, the machine will be switched into the post-run-mode to cool down automatically after 15 Seconds.

! Please note: Please make sure that the **hazer** will not be disconnected too early to allow the fan to run until the device has cooled down. This will ensure that no liquid remains in the vaporizer to come out as droplets when the device is switched on the next time.

5.2 Control choices

You may control the **hazer** externally through the XLR sockets.

!Please note: DMX takes priority. That means: when the machine is controlled via DMX 512 this data takes priority over 0-10V (+) DC and Stand alone operation.

!Please note: You can't hold down the Mode-button for scrolling through the Menu. The Mode-button has to be pressed only momentarily. If the Mode-button is pressed more than two Seconds, the machine will change into the Timer-Mode

The outstanding feature is the adjustable output of the **hazer**. The pump and the fan can be easily and separately adjusted and regulated in 99 steps via buttons. Any desired effect can be achieved in steps of 1%: from the finest mist to a thick haze, similar to fog. To achieve the thickest effect the pump must run at 99%, the fan at 1%. The finest haze can be achieved with lower pump and higher fan settings. The data can be readjusted whenever you want to.

5.3 Operating via DMX 512

Connecting the **hazer** to a DMX desk, use the DMX socket beside the control panel. As soon as the machine receives a correct DMX signal, the yellow DMXLED will be lit.

!Please note: The **hazer** uses two channels on your desk! First Channel = Pump, second Channel = Fan.

Adjusting the DMX start address

- a) Press the Mode-button at the control panel until three figures appear on the LED-display
- b) Adjust the required start address by pressing the Up- or Down-button
- c) Save the start address by pressing the Enter-button once. The start address will now also be saved when you disconnect the machine from the mains supply.

Adjusting the pump and fan output in DMX use

If you run the machine via a DMX desk you can adjust the pump and the fan directly from the desk from 1 to 99%.

The adjusted channel will control the pump, the following one will control the fan.

5.4 0 - 10 Volt (+) DC control

Connect the hazer to an analogue desk or to the optional cable remote by using the 3-pol-XLR-socket beside the control panel.

!Please note: With the analogue control the pump can be adjusted from the desk and/ -or cable remote. The fan has to be adjusted at the machine.

- a) Put the cable from the desk or the cable remote into the 3-pol-XLR socket beside the control panel.
- b) Put the pump up to 99% and adjust the required fan output at the machine
- c) With the turnable button on the cable remote or with the fader on the analogue desk the pump output can be regulated.
- d) Pressing the On/Off switch at the cable remote starts the haze process. The green Active-LED will be lit.

Adjusting the pump and fan output in analogue use

- a) Press the Mode-button at the control panel until a P and two figures will appear on the LED . Put the pump up to 99%.
- b) Press the Mode-button at the control panel until an F and two figures will appear on the LED display
- c) Adjust the desired data (1 - 99%) by pressing the Up- or Down-button
- d) The data for the pump can be regulated/adjusted via the turnable button on the cable remote or the fader on your analogue desk.

5.5 Stand alone - use

The **hazer** also can be used in the Stand alone mode. In this mode all data for the pump and the fan must be adjusted directly at the machine.

Adjusting the pump and fan output in Stand alone - use

- a) Press the Mode-button at the control panel until a P and two figures will appear on the LED-display.
- b) Adjust the desired data (1 - 99%) by pressing the Up- or Down-button
- c) Press the Mode-button again until an F and two figures will appear on the display
- d) With the Up- or Down-button the fan data can now be adjusted.
- e) Press the Enter-button once to start the machine. The green Active-LED will be lit.
- f) Stopp the machine by pressing the Enter-button again.

5.6 Use by internal programmable timer

With the internal programmable timer an individual profile for a show can be programmed. Two Levels (Level A and B) with different pump and fan values and different run-times can be programmed (Level A = settings 2, 3, 4 / Level B = settings 5, 6, 7). Also a pre-runtime can be programmed in (setting 1) which tells the machine when it should start to run.

For example: The machine shall start to run after 30 Minutes (setting 1). Then the stage should be filled with haze within 10 Minutes. Therefore a high pump and fan output should be adjusted and a time of 10 Minutes (setting 2, 3, 4). After 10 Minutes high output, pump and fan shall go down automatically to a lower step and fill the stage with haze for another hour (setting 5, 6, 7).

The following Profile settings can be adjusted:

- | | |
|------------------------|------------|
| 1. Pause (Pre-Runtime) | 0 - 99 min |
| 2. Pump (Level A) | 1 - 99 % |
| 3. Fan (Level A) | 1 - 99 % |
| 4. Run-Time (Level A) | 0 - 99 min |
| 5. Pump (Level B) | 1 - 99 % |
| 6. Fan (Level B) | 1 - 99 % |
| 7. Run-Time (Level B) | 0 - 99 min |

- a) Press the Mode button repeatedly until „Pro“ will appear on the display.
- b) Press the Enter button once to switch to the programmable timer Menu. The red Timer/Profile-LED will be lit.
- c) Adjust settings 1 to 7 according to the chart, using the Up/Down buttons and pressing the Mode button to switch between the settings. These settings are stored in non-volatile memory. You don't have to run the Profile or press the Enter button in order to „save“ the settings. All settings can be changed as described at any time.
- d) To start the Profile with the adjusted values, press the Mode button, until „run“ will appear on the display, then press the Enter button. The Timer/Profile flashes, indicating that the Profile is running. The green Active-LED will light as soon as the adjusted Pause (Pre-Runtime) has passed and level A has started. The Profile can also be started via an optional radio remote.
- e) To leave the programmable timer menu or to quit the Profile, first press the Mode button until „ESC“ will appear on the display. Then press the Enter button once to return to the main menu.

5.7 Use by internal timer

With the internal timer, the haze time and wait time can be adjusted in Minutes (0.1 - 99), the pump and fan output can be adjusted in per cent (0 - 99). To start the Timer-Mode, press and hold the Mode button for more than 2 Seconds. The red Timer/Profile-LED will blink as soon as the machine has switched to the Timer-Mode. As long as the timer is in operation, the red Timer/Profile-LED blinks.

The adjusting of the output, haze time or wait time is the same as in the Standard-Menu. This means you have to press the Mode button repeatedly until you reach the required function.

With the Up/Down buttons you can adjust the required functions, then press the Enter button to start the timer. Please note that P and F control Pump and Fan, whereas P. and F. control Pause time and Haze (Fog) time.

The timer cycle starts with the time shown on the display when you press the Enter button (i. e. P.xx = Starts with wait time, F.xx = Starts with haze time). The timer cycle will not start if you press the Enter button while the pump or fan output setting is shown on the display.

You can switch back to the Standard-Menu by pressing the Mode button for more than 2 Seconds or by pressing the Mode button repeatedly until „ESC“ is shown on the display and then press the Enter button once.

5.8 Auto start

If the timer is in operation and you disconnect the machine from the mains cable, the **hazer** will re-start in the Timer-Mode as soon as it's reconnected to the mains. To stop this, press the Mode-button for more than 2 Seconds or by switching to „ESC“ in the Timer-Mode and then press the Enter-button.

5.9 Wiring of the sockets

5pin XLR (DMX):

Pin 1 = Ground, Pin 2 = DMX -, Pin 3 = DMX +

3pin XLR (analog):

Pin 1 = Ground, Pin 2 = 0-10 V + DC in, Pin 3 = 12 V + DC out, max. 50 mA

6. Cleaning and Care

Clean the fan grill in the flightcase from time to time to remove dust and dirt.

After several hours of operation, some droplets of condensation will have formed at the nozzle. That is normal and not a malfunction.

!Please note: Remove fluid droplets at the nozzle only when the machine has completely cooled off. During operation the nozzle gets very hot!

Do not let the **hazer** run without any fluid as the pump will run dry.

Check the state of the fluid filter from time to time and clean or replace it when necessary.

!PLEASE NOTE: The vaporizer of our machines does not have to be cleaned! Cleaners, available on the market, can damage the vaporizer! We cannot grant warranty in this case.

7. Troubleshooting

Trouble: The pump runs, but little or no haze is produced.

Cause: The pump sucks no or too little fluid.

Check whether the canister is empty

- Check whether the brass collar is properly connected with the brass coupling
- Check whether the fluid filter in the canister is clogged
- Check whether the fluid tube is twisted or defective

Trouble: The yellow LED at the machine does not light up (only when running via DMX)

Cause: Connection from the machine to the desk is faulty.

Check whether the plug is plugged in correctly

Check whether the cable is defective

Check whether the DMX start address is adjusted correctly

Trouble: During operation the **hazer** fails to work for a long time

Cause: The overtemperature protection device is activated.

Check whether the fan is clogged

Trouble: E-4 appears on the LED display

Cause: The machine is getting too hot. The heating switches off and the machine cools down.

Solution: Disconnect the machine from the mains supply for a moment and then re-connect it.

Trouble: E-8 appears on the LED display

Solution: The vaporizer is clogged.

Cause: Please send the machine to us or your local dealer.

Trouble: E-1 appears on the LED display

Solution: Please send the machine to us or your local dealer.

8. Technical data

| | |
|--------------------------------|--|
| Procedure: | Haze machine without compressor |
| Power requirement: | 1500 Watt |
| Voltage: | 230 V/ 50 Hz |
| Warm up time: | approx. 60 Seconds |
| Fluid tank capacity: | 5 liters |
| Integrated Fan: | > 6000 l/min. |
| Haze density: | variable |
| Control: | DMX 512 0 - 10 V analogue cable remote (option) |
| Dimensions (L x W x H): | 59,4 x 54 x 18,5 closed flightcase 41,4 x 54 x 18,5 open flightcase |