

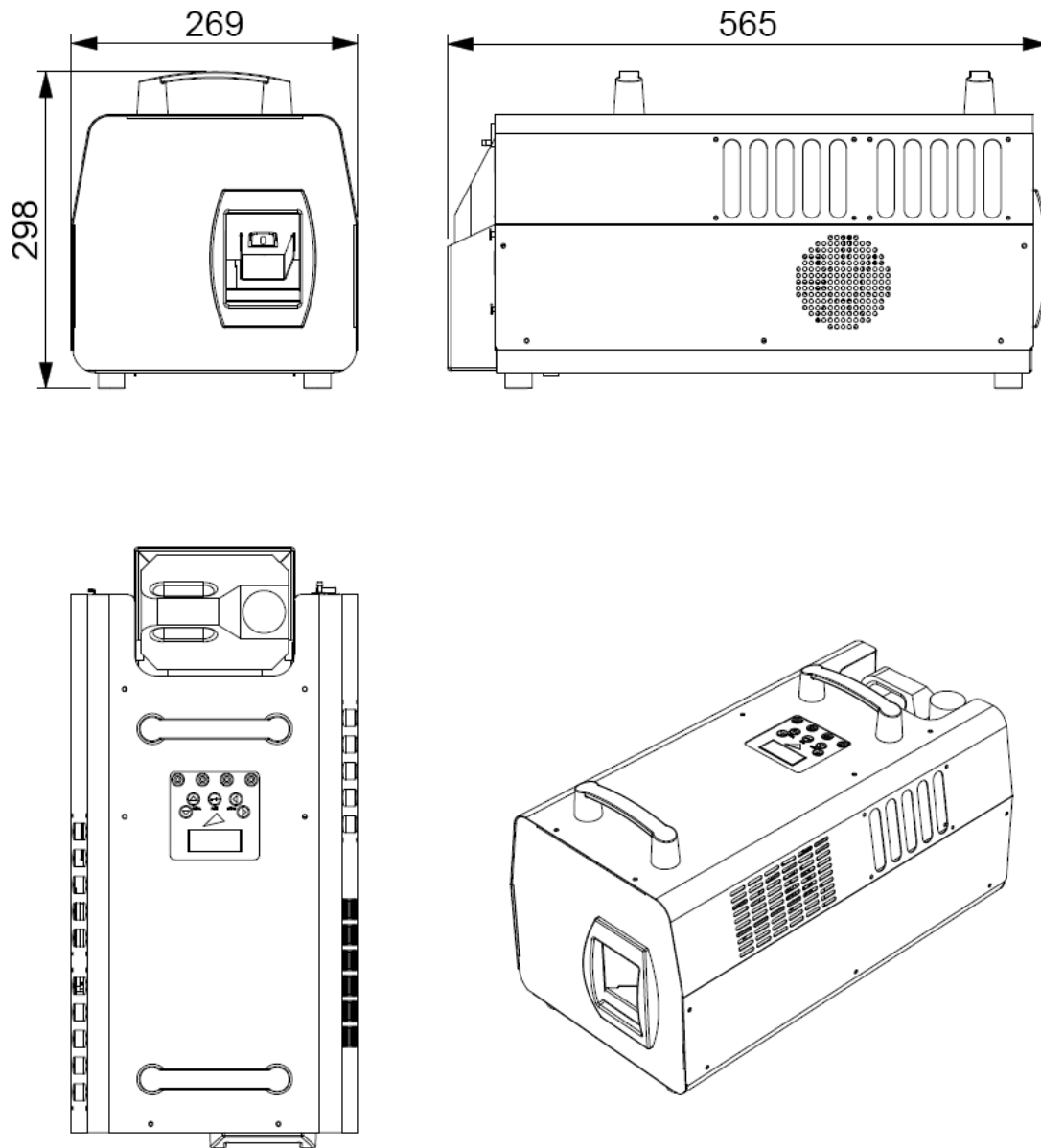
READ AND SAVE THESE INSTRUCTIONS



user manual

Dimensions/Legal

All dimensions are in millimeters



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JEM Hazer Pro User manual, P/N 35010039 Rev. I

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Safety information

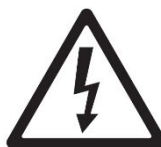
The following symbols are used to identify important safety information:



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.



Warning! This product is not for household use. It presents risks of injury due to electric shock, burns, falls and respiratory problems!

Read this manual before operating the machine, follow the safety precautions listed below, and observe all warnings in this manual and printed on the machine. Use the machine only as described in this manual and in accordance with local laws and regulations.

If you have questions about how to operate the machine safely, please contact your local JEM service center.

Preventing electric shocks



- Always ground (earth) the machine electrically.
- Use only a source of AC power that complies with local building and electrical codes, and that has both overload and ground-fault protection.
- Before connecting the machine to power, check that the voltage indicated on the machine's serial label matches your local AC power voltage. If your AC power voltage does not match, do not use the machine. Contact your local JEM service center.
- Before using the machine, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
- If the machine or any cables connected to it are in any way damaged, defective, wet, or show signs of overheating, stop using the machine and contact your local JEM service center for assistance. If the supply cord is damaged, it must be replaced by a special cord or assembly available from your local JEM service center.
- Disconnect the machine from AC power before servicing and when not in use.
- This machine is not waterproof and should not be exposed to wet outdoor conditions. Do not immerse in water or any other liquid. Do not expose to high-pressure water jets.
- Do not spill fluid over or inside the machine. If fluid is spilled, disconnect AC power and clean with a damp cloth. If fluid is spilled onto electronic parts, take the machine out of service and contact your local JEM service center for advice.

- Do not remove the covers or attempt to repair a faulty machine. Refer any service not described in this manual to your local JEM service center.
- Do not operate the machine if any parts are damaged, defective or missing.
- Moisture and electricity do not mix. Do not aim haze output at electrical connections or devices.

Preventing burns and fire



- The haze produced by the machine is hot enough to cause burns when it leaves the nozzle, and very hot droplets of fluid escape occasionally. Keep people and objects at least 600 mm (24 in.) away from the haze output nozzle.
- Do not touch the haze output nozzle during or after use – it becomes extremely hot and remains hot for several hours after the machine has been shut down.
- Haze output contains glycol, a flammable alcohol that burns with an almost invisible blue flame. Do not point haze output at sources of ignition such as open flames or pyrotechnic effects.
- Do not attempt to bypass thermostatic switches, fluid sensors or fuses.
- Replace fuses only with ones of the type and rating specified in this manual for the machine.
- Provide a minimum free space of 100 mm (4 in.) around the machine.
- Provide a minimum free space of 500 mm (20 in.) around fans and air vents and ensure free and unobstructed airflow to and around the machine.
- Keep the machine at least 600 mm (24 in.) away from combustible and heat-sensitive materials.
- Do not operate the machine if the ambient temperature (T_a) is below 5° C (41° F) or above 40° C (104° F).
- Do not operate the machine if the relative air humidity exceeds 80%.

Preventing injuries

- Ensure that the surface on which the machine is located or installed can safely hold the weight of the machine.
- Fasten the machine securely to a fixed surface or structure when in use. The machine is not portable when installed.
- If suspending from a rigging structure ensure that any supporting structure and/or hardware used can hold at least 10 times the weight of all the devices they support.
- If suspending from a rigging structure, fasten the machine to a rigging clamp. Do not use safety cables as the primary means of support.
- If the machine is installed in a location where it may cause injury or damage if it falls, install as directed in this manual a secondary attachment such as a safety cable that will hold the machine if a primary attachment fails. The secondary attachment must be approved by an official body such as TÜV as a safety attachment for the weight that it secures, must comply with EN 60598-2-17 Section 17.6.6 and must be capable of bearing a static suspended load that is ten times the weight of the machine and all installed accessories.

- Check that all external covers and rigging hardware are securely fastened.
- Block access below the work area and work from a stable platform whenever installing, servicing or moving the machine.
- Do not install the machine over areas where people are present.
- Do not operate the machine with missing or damaged covers or shields.
- In the event of an operating problem, stop using the machine immediately and disconnect it from power. Do not attempt to use a machine that is obviously damaged.
- Do not modify the machine in any way not described in this manual or install other than genuine JEM parts.
- Refer any service operation not described in this manual to your local JEM service center.
- Haze output can cause condensation. Do not point the output at smooth floors. Floors and surfaces may become slippery. Check these frequently and wipe dry as necessary to avoid any danger of slipping.
- Ensure at least 2 m (6.6 ft.) visibility in areas where haze is being produced.
- Haze fluid contains food-grade glycols in solution that may present health risks.

IF SWALLOWED: Do not induce vomiting. Drink 1-2 glasses of water and seek medical attention.

AVOID CONTACT WITH SKIN AND EYES: In case of accidental contact: **EYES:** Hold eyes open and flush with water for ten minutes, seek medical attention if irritation persists. **SKIN:** Remove contaminated clothing and rinse skin for 20 minutes, seek medical attention if irritation persists.

Consult the fluids' SDS for more detailed safety information.

- This machine is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety. Children should be supervised to ensure that they do not play with the machine.

Preventing breathing problems



- A haze machine can operate safely only with the haze fluid it is designed for. Use the machine only with fluids specified under “Approved Haze fluid” on page 20 or you may cause the release of toxic gases, presenting a severe health hazard. You will also probably damage the machine.
- Do not create dense haze in confined or poorly ventilated areas.
- Do not expose people with health problems (including allergic and/or respiratory conditions such as asthma) to haze output.
- Do not point haze output directly at a person’s face or at face height.

For the latest user documentation and other information for this and all JEM products, please visit the JEM website at www.jemprofessional.com. If you have any questions about how to install, operate or service the fixture safely, please contact your local JEM service center.

Product overview

Product description

The JEM Hazer Pro is a top of the range haze machine from JEM Professional designed for the highly demanding professional market. Its ability to produce exceptionally fine atmospheric haze in a short period of time makes it an ideal choice for rental houses, shows, theatres, TV studios, clubs, bars, cruise ships, theme parks and more.

Robust yet small and lightweight, the JEM Hazer Pro is capable of dispersing an even, continuous haze with superior optical clarity and reflectivity, the perfect small-particle haze for highlighting today's highly defined light beams. A high-quality air pump system ensures smooth distribution while a unique mixing channel allows the haze to optimize before being expelled.

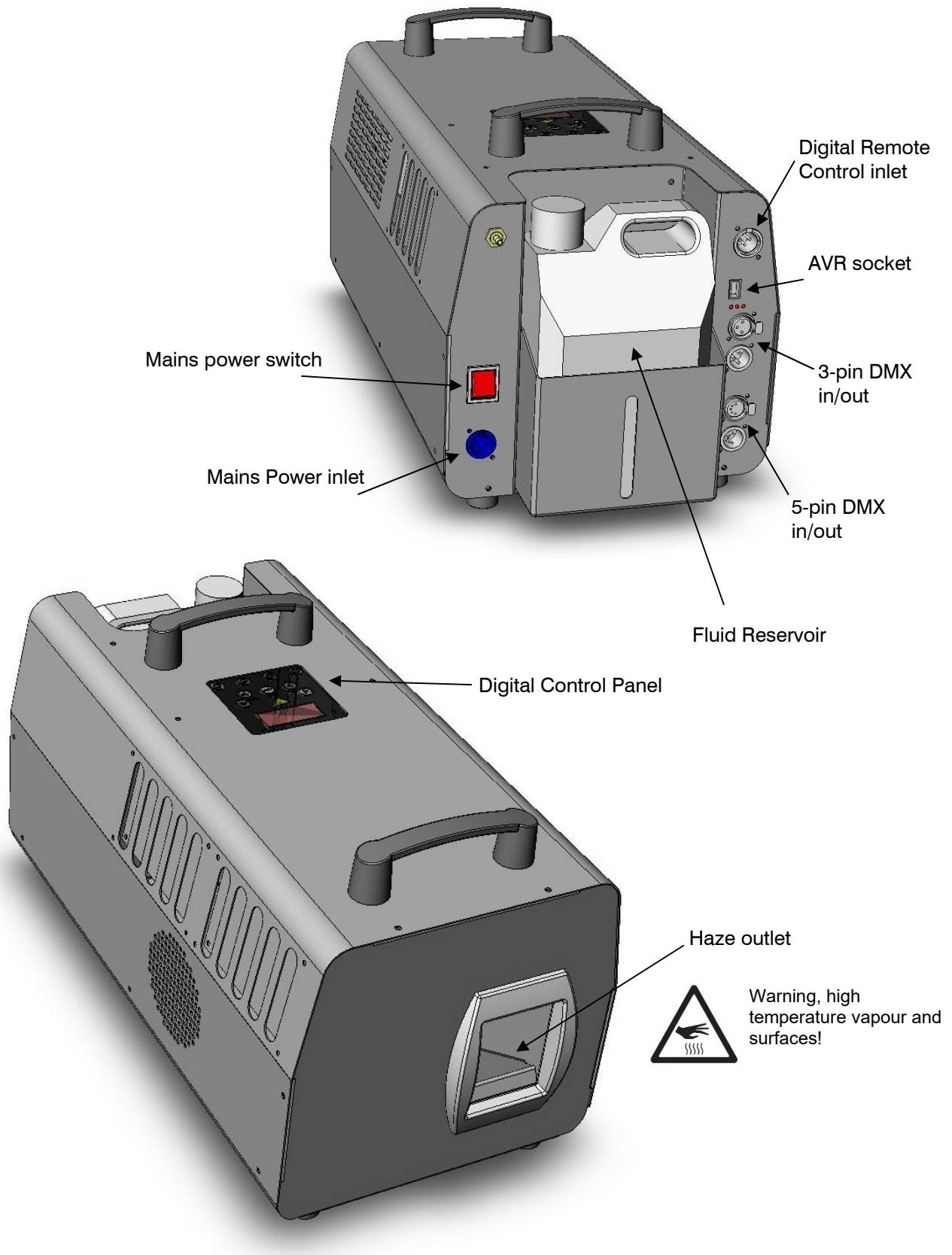
Features at a glance

- Continuous effect output.
- Water-based fluid provides dense particles and even haze.
- Sealed fluid system with quick-connect fittings.
- 2.5 l fluid reservoir - 10.5 hours on full output.
- User-friendly on-board digital control panel.
- Pre-programmed "silent" mode.
- Independent variable haze and fan control.
- DMX Control with RDM Standard.
- Road-worthy industrial design.
- Lightweight and small footprint.
- Optional Flying Kit and Digital Remote Control.
- Battery powered automatic shutdown system - prevents clogging.



Use only JEM C-Plus Haze Fluid. Use of other fluid will void warranty.

Product details



Quick Start

You are no doubt eager to switch on the machine and try it out by making a lot of haze. This section tells you how to do that. However, please also make the time to read the safety and servicing instructions in the remainder of this manual.

Setting up

Locate the machine in a suitably large area with nothing in front of the haze output.

Fill the fluid tank with JEM C-Plus Haze Fluid only. Use of other fluid will void the warranty.

Connect a suitably rated power supply to the machine using the supplied mains power cable. The power requirements are:

3.1 A @ 230 V (EU model)

6 A @ 120 V (US model)

Now set the mains switch, at the rear of the machine, to the 'ON' position. The display will show **HEAT**. If the display shows **OFF** press the RUN button on the digital control panel. After about 6-8 minutes the display should show **CONT** and the machine will begin producing haze. If the display shows **RDY**, press the RUN button to start haze.

Making haze

The two quick access buttons (PRE1, PRE2) at the bottom left of the control panel enable/disable different haze/fan output levels, which can be user-defined. The SILENT button enables/disables a pre-defined operating mode, which reduces noise. The RUN button starts and stops haze production.

If you want to adjust the haze density manually, press the Menu < > buttons until the display shows **HAZE**, then press the Enter button and use the Value up/down buttons to select a value above 0%.

You can also adjust the fan speed using the **FAN** menu.



If no haze is produced it may be necessary to prime the machine, press the Menu < > buttons until the display shows PRME, then press the Value Up button so the display shows Y, then press the Enter button.

Switching off

The JEM Hazer Pro is designed to run an automatic self-cleaning cycle on power down to help prevent blockages using its built in rechargeable battery.

When power is turned off the cleaning cycle will begin automatically. The display will show **"WAIT"**, then **"90"** counting down to **"00"**. The machine will then power off automatically.

Installation and setting up



DANGER! DO NOT operate the haze machine until you have read and observed all the precautions listed under “Safety information” on page 5.

Location

The JEM Hazer Pro is designed to be located on the floor or may be suspended using the optional flying kit. If suspending the machine, the handles are removed and four eyebolts provided in the flying kit are fitted in their place.

The machine can operate in any orientation from 30° upwards to 30° downwards. Steeper tilting may cause fluid leakage.

If the machine is to be suspended, ensure the mounting structure can support the weight of the machine. Do not suspend the machine over areas where people will be underneath. Use only the Flying Kit optionally available from JEM to suspend the machine.

Ensure that there is at least 100 mm (4 in.) clearance all-round the machine and at least 600 mm (24 in.) in front of the haze outlet.

AC power

Before using the machine, ensure that a grounding-type (earthed) power plug that fits the local power outlets is installed on the mains cable provided.



DANGER! Make sure the power plug is correctly rated:

- For EU (230 V) use fit a plug rated 6 A minimum
- For US (120 V) use fit a plug rated 10 A minimum

When installing the plug, follow the plug manufacturer’s instructions and connect pins as follows:

Yellow and green wire to ground (earth), blue wire to neutral and brown wire to live.

The table below shows some common pin identification schemes.

wire	function	marking	screw color
brown	live	“L”	yellow or brass
blue	neutral	“N”	silver
green/yellow	earth		green

Before connecting the haze machine to power, verify that the AC supply is adequately dimensioned for the current draw of the machine. The machine requires:

3.1 A @ 230 V (EU model)

6 A @ 120 V (US model)

Check that the local AC voltage is appropriate, as indicated on the machine's serial number label. If your AC voltage is outside the appropriate range, do not use the machine. Contact your local JEM service center.

Setting up

Fill the fluid reservoir only with JEM C-Plus Haze Fluid (see page 20).

If DMX control is being used, connect the machine using DMX cable (see page 18). If the JEM Digital Remote Control (optional accessory) is being used, connect it to the remote socket (see page 17).

Final checks

Before applying power to the haze machine, verify the following:

- the machine is safely located or installed and meets the location requirements stated on page 11
- the operator is familiar with, and able to comply with, the requirements for safe operation listed on page 5.
- the haze fluid is one of the genuine JEM fluids listed under "Approved Haze fluid" on page 20.
- the machine is electrically grounded (earthed)
- the AC power distribution circuits and lines are adequately rated for the current load

Turning on the power

Turn on the mains power switch located next to the mains power inlet. The display will show **HEAT**. If the display shows **OFF** press the RUN button on the digital control panel. The machine will remember its state from when it was turned off last time, so it will only power up in OFF mode if you have previously disabled the heaters.

After about 6-8 minutes the display should show **CONT** and the machine will begin producing haze. If the display shows **RDY** press the RUN button to start producing haze.

Turning off the power

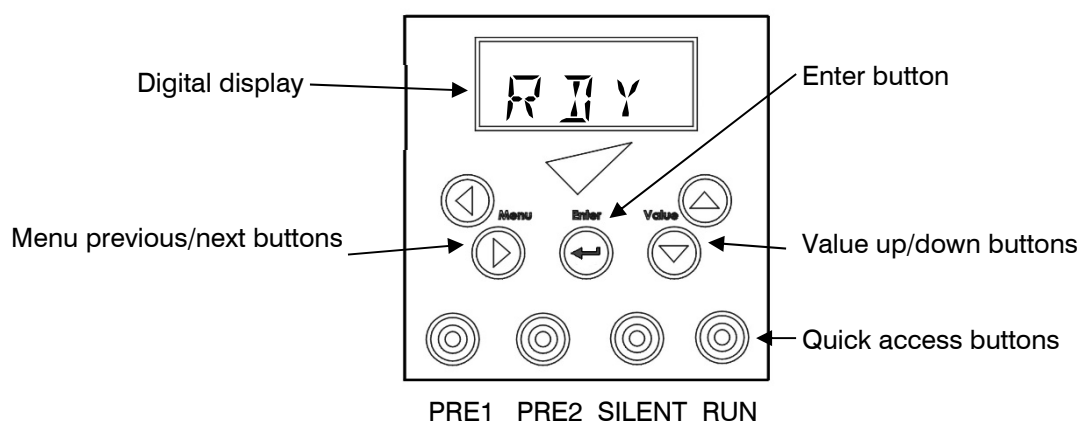
The JEM Hazer Pro is designed to run a self-cleaning cycle on power down to help prevent blockages, using its built in rechargeable battery.

When you turn off the power, the cleaning cycle will begin automatically. The display will show "**WAIT**", then "**90**" counting down to "**00**". During this time, the unit purges the fluid from its internal pipework to help prevent blockages. The machine will then power off automatically.

Control settings

Overview – Digital Control Panel

The **Digital Control Panel** on the top of the machine allows you to configure the control settings using option menus.



The brightness of the display can be changed to LOW, NORM or HIGH using the DISP menu option.

Quick access buttons

The four quick access buttons below the display allow you to select between either two defined presets (PRE1, PRE2), silent mode (SILENT) or continuous Run Mode (RUN). The display shows the current setting.

The two left hand buttons (PRE1, PRE2) select preset combinations of haze and fan output. The buttons come preset as defined in the chart below.

quick mode	haze and fan settings
PRE 1	Haze 35%, Fan 15%
PRE 2	Haze 75%, Fan 45%



To change the preset settings, adjust the Fan and Haze settings using the menu, then within 3 seconds press the PRE1/PRE2 button to store the change. SE T will then be displayed if successful.

The two right-hand buttons (SILENT, RUN) change the operating mode.

Press RUN to engage continuous Run Mode. Haze and fan values correspond to the values in the control menu. The display shows E N T . To stop output, press the RUN button again to set the machine to Standby mode (heaters remain on).

Press SILENT to engage a low noise mode, which slows down the fan only. If the RUN button is used to stop the haze, Silent mode is not cancelled. **Silent mode is a global setting and will affect both manual and DMX control.**

Setting Run mode

The Run menu sets the operational mode of the unit, either Off, Standby (heaters remain on), Fan only, Timer mode or Continuous mode.

Use the Menu Previous / Next buttons to select the **RUN** option.

Use the Up/Down buttons to select **OFF**, **STBY**, **FAN**, **TIME**, **CONT**. Press the Enter button to store the setting. The display shows **SET**.

Selecting OFF will disable the heaters on the unit.

Setting haze output

Use the Menu Previous / Next buttons to select the **HAZE** option.

Use the Up/Down buttons to select the output from 0% – 100%.

Press the Enter button to store the haze setting. The display shows **SET**.



If you want to temporarily change the haze density, do not press Enter. The haze setting will go back to its stored value next time the machine is powered up. This applies to all options.

Setting fan speed

Use the Previous / Next buttons to select the **FAN** option.

Use the Up/Down buttons to select the fan speed from 0% – 100%.

Press the Enter button to store the fan setting.

The fan will run continuously if set above 0% and the RUN menu is set to FAN, TIME or CONT.

If haze is being produced and the fan is off or set to a low speed, the fan speed will be automatically increased to prevent build-up of haze at the machine output. The fan will also automatically run on for a short period when haze is turned off.

Auto Fan Mode

In some circumstances where an improved vertical distribution of haze is required, **AUTO** can be selected from the **FAN** menu. This causes the fan speed to vary over a 5-minute period.

Setting the Timer

Select the **TIME** option from the RUN menu.

Then set the **TRUN** and **TOFF** values from the menu.

The **TRUN** and **TOFF** values are set in seconds and are in the range 0-99. The haze and fan values are taken from the menu settings for Haze and Fan. The timer will cycle continuously until the run menu is changed.

Use this mode for maintaining a low level of haze in smaller venues.



When the timer is running and the display is not showing a menu, the display shows TRUN or TOFF as the timer cycles between run and off modes.

Setting the DMX start address

Use the Previous / Next buttons to select the **DMX** option.
Use the Up/Down buttons to set the DMX start address from 001 to 509. If you hold down the button, the address will count up/down faster.
Press the Enter button to store the address setting.
The machine will automatically respond to a DMX controller whenever it is connected.

When using in a DMX system ensure the LINK menu is set to RECV (the default setting) to avoid causing DMX errors to other devices on the system.

Setting the host-client link mode

It is possible to control several machines from one. The primary machine, which from which commands are sent, is the Host. The other machines are Clients. The machines are interconnected with DMX cabling.

Use the Previous / Next buttons to select the **LINK** option.
Use the Up/Down buttons to select **RECV** (client unit) or **SEND** (host unit).
Press the Enter button to store the link setting.

The machine should be set to **SEND** only if it is running as a host. If running as a client, stand-alone or DMX controlled it should be set to **RECV**.

Aux

This option is not currently used and has no effect on the machine.

PSI Readout

This status readout is for service use only.

Priming the machine after fluid out

If the machine runs out of fluid it should be shut down to prevent damage to the pump. To suck the new fluid back into the machine, replace/refill the fluid reservoir and use the prime function.

Use the Previous / Next buttons to select the **PRIME** option.
Use the Up/Down buttons to change the option to **Y**.
Press the Enter button to start the priming function.

The machine will pump at full power for about 10 seconds or until the unit senses fluid in the heat exchanger.
To exit this menu if you decide not to activate the Prime function, select **N** and press Enter.

If the machine is not up to operating temperature, the Prime function will do nothing.

Resetting options to factory settings

The factory settings configure a standard mode of operation for the machine.

Use the Previous / Next buttons to select the *R S E T* option.

Use the Up/Down buttons to change the option to *Y*.

Press the Enter button to reset all options.

To exit this menu if you decide not to reset the options, select *N* and press Enter.

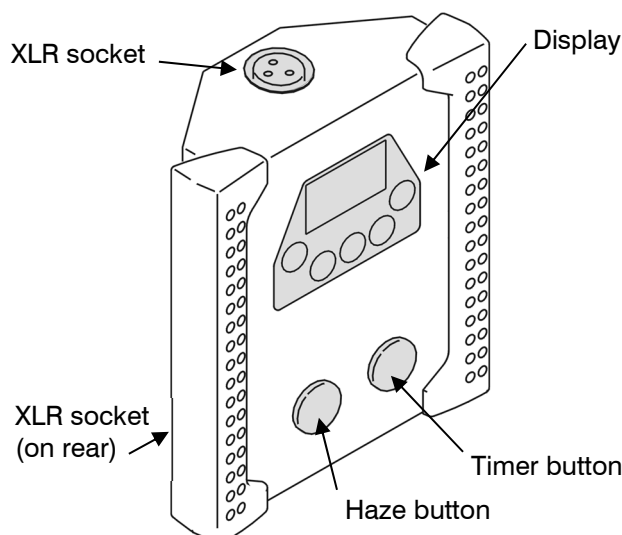
The factory settings are:

option	setting
HAZE	10 %
FAN	10 %
TRUN	10 seconds
TOFF	20 seconds
RUN	OFF
ADDR	001
DISP	NORM
LINK	RECV
AUX	0
PRME	N
PRE1	HAZE 35 % FAN 15 %
PRE2	HAZE 75 % FAN 45 %

Optional Digital Remote Control

Overview

The JEM Digital Remote Control, optionally available, may be used for remote control of the JEM Hazer Pro. Several machines may be controlled from one remote using Host/Client Link mode, see page 15.



Functions

The remote control provides the following functions:

- Haze button: turns haze output on and off. Press once to start haze and again to stop.
- Timer button: turns the haze timer on and off.
- Haze level setting (HAZE = 0 -100%)
- Fan speed setting (FAN = 0 -100%)
- Timer run time/off time settings (TRUN = 0 -99 seconds, TOFF = 0-99 seconds)
- Run mode (RUN = OFF, STBY, FAN, TIME, CONT)

The functions are the same as on the built in digital control panel and are described on page 13.

The **RUN** menu duplicates the functions of the Haze and Timer buttons. The buttons are simply a quick way to control this menu function.

Connection

The remote control has two identical XLR connectors on the top and back for connection to the JEM Hazer Pro. Plug the cable provided with the remote control into one of these sockets and into the top 3-pin XLR socket labeled 'Remote' on the rear panel of the JEM Hazer Pro.

The remote control is powered through its cable by the Jem Hazer Pro; no batteries are required.

The cable may be extended to up to 25 m (82 ft.) with a 3-pin XLR DMX cable.

DMX control

Overview

DMX is a digital control system widely used in entertainment and architectural lighting. Any controller meeting the DMX-512A standard may be used to control and program the haze output of the JEM Hazer Pro.



When a DMX signal is present, the JEM Hazer Pro stand-alone functions do not work. To fire the unit from the control panel or remote control, the DMX controller must be powered off or disconnected.

Connection

The JEM Hazer Pro provides both a 3- and 5-pin XLR connectors on the rear panel of the unit for DMX connection.

You can either use the 3- or 5-pin connectors for input/output, but you should not use the unit as a splitter by connecting both the 3- and 5-pin outputs at the same time.

For best results, use cable designed for high-speed digital data transmission.

DMX functions

The JEM Hazer Pro start address must match the DMX start address allocated to it on your controller. To set the address, see “Setting the DMX start address” on page 15. The JEM Hazer Pro uses 3 DMX channels.

For example if the JEM Hazer Pro is set to DMX address 100, channel 1 will be controlled by address 100, channel 2 will be controlled by address 101 and channel 3 by address 102.

When the machine is at running temperature and is under DMX control it displays **DMX**.

The functions of each DMX control channel are shown on the following page.

Channel 1	DMX value range	Function	Macro description	Default value
Haze output Level	0-12	Idle range	None	0
	13- 24	Haze 5%		
	25- 36	Haze 10%		
				
	245 -255	Haze 100%		
Channel 2	DMX value range	Function	Macro description	Default value
Fan output level (fan will always run if haze is active)	0-12	Idle range	None	0
	13-24	Fan 5%		
	25-36	Fan 10%		
				
	245 -255	Fan 100%		
Channel 3	DMX value range	Function	Macro description	Default value
Special functions	0-50	Idle range	None	0
	51-100	Prime	5 seconds within range to activate once	
	101-150	Auto Fan mode	None (level triggered)	
	151-200	Heater off & shutdown	5 seconds within range to activate once	
	201-255	Heater on (normal operation)	None, but heaters will stay on if channel 3 returns to zero	

RDM operation

The JEM Hazer Pro supports DMX Remote Device Management (RDM). This allows configuration and status monitoring of the machine from a suitably equipped lighting console or control system.

The following can be configured using RDM:

Set/read DMX start address

Set/read RDM device label

Reset device

Reset options to factory defaults

The following parameters can be read using RDM:

Device status (ready, heating)

DMX "slot" functions (channel functions)

Device software version

Device model/manufacture

Service Data

Approved Haze fluids

The JEM Hazer Pro must only be used with **JEM C-Plus Haze Fluid**. JEM supplies high quality haze fluids that are based on ultra-pure deionized water. No other fluid is suitable for use.

JEM C-Plus Haze Fluid is a water-based haze fluid formula that is specifically designed for use in the JEM Hazer Pro and JEM Compact Hazer Pro. JEM C-Plus Haze Fluid is a dense molecular formula that produces very fine haze particles, specially designed to emphasize beam and mid-air light effects, projections and lasers. The fluid produces an evenly dispersed atmospheric haze for optimal visual clarity while maintaining a peak refraction index. Besides delivering a unique effect C-Plus Haze Fluid is formulated to generate a long hang time. JEM C-Plus Haze Fluid is very economical and yields a low level of consumption ideal for the precision of performance based art in clubs, theatres and touring applications.

Available in 2.5, 5, 25, and 220 l containers.



DANGER! The JEM Hazer Pro can run safely only on the specific haze fluid it is designed for. Use **ONLY** JEM C-Plus Haze Fluid as designated in this manual. **NEVER** use any other type of fluid, or toxic gas may be produced. You will probably also cause damage to the system that will invalidate the product warranty. Do not dilute haze fluid with water or any other liquid. Discard haze fluid if it becomes contaminated.

Basic service



Before servicing the JEM Hazer Pro, read and observe all the precautions listed in "Safety information" on page 5. Any service not described in this section must be carried out by a JEM service technician.

Cleaning

Excessive dust, haze fluid, and dirt build-up will degrade performance and cause overheating and damage to the machine that is not covered by the product warranty. To maintain adequate cooling, dust must be cleaned from the outer casing and air vents of the machine periodically.



Isolate the machine from power and allow to cool completely before cleaning. The haze output nozzle remains hot for a period after use.

- Remove dust from the air vents with a soft brush, cotton swab, vacuum, or compressed air.
- Clean haze fluid residues from the haze output of the machine using a damp cloth.
- Clean the outer casing with a damp cloth only.

JEM Pro-Clean and Storage Fluid

JEM Pro-Clean & Storage Fluid is specially designed for optimizing performance while providing longevity of any effect machine. JEM Pro-Clean & Storage fluid is the ultimate cleaning solution for JEM atmospheric effect heat exchangers. This advanced preventative maintenance fluid has been utilized by JEM service technicians for years of both cleaning and storing effect machines. Utilizing JEM Pro-Clean & Storage Fluid on a regular basis reduces clogging and further extends the life of your JEM atmospheric effect machines. By using the highest grade chemicals available while remaining eco-friendly, JEM fluids are both effective and safe.

Instructions for use

Use fluid directly from container, **do not dilute**. Remove cap and safety seal; if inner safety seal has been tampered with, return product to point of purchase. Disconnect effect machine from power source before filling reservoir. When possible, remove reservoir from machine and carefully fill reservoir to desired level, taking care not to overfill or spill. Wipe up any spilled fluid with a damp cloth. Replace cap on container and store upright in a secure location.

Cleaning and Preventative Maintenance Procedure:

Use JEM Pro Clean and Storage Fluid after every 200 hours of operation or monthly depending on usage and duty cycle. In a well-ventilated area temporarily connect JEM Pro Clean and Storage Fluid to the effect machine being serviced or fill the machines provided fluid reservoir. Allow the machine to fully heat. When machine is ready activate the machine to run continuously for 30-45 minutes; use a timer function if available.

Storage Procedure:

Perform the above cleaning and preventative maintenance procedure. After procedure is completed simply run the machine until all fluid has been visibly purged from the fluid inlet tubing to prevent leaks and seepage.

Fuse replacement

The two fuses for the machine are located on the electronics board inside the unit.



DANGER! Disconnect the power supply before removing any covers. Live parts inside!

To replace a fuse, disconnect the power cord from the supply, unscrew the screws holding the top cover of the unit and remove the cover. The electronics board is located in the compartment under the display.

Remove the spent fuse and replace with one of exactly the same size and rating. The fuse type is indicated below. Contact your local JEM service center if the fuse blows repeatedly.

F1

120 V = 10AT
230 V = 6.3AT

F2

120 V = 3.15AT
230 V = 3.15AT

Troubleshooting

Problem	Probable cause(s)	Suggested remedy
Machine will not produce haze when control panel set to RUN or remote control Haze switch turned on	Machine not at operating temperature	Wait until <i>H E R T</i> message no longer shown
	<i>H A Z E</i> set to 0	Increase setting
	<i>T R U N</i> set to 0	Increase setting
	DMX signal present	Disconnect or turn off DMX controller
Machine can be fired from control panel or remote control, but not by DMX controller	DMX address setting incorrect	Change DMX address (page 15)
	Poor connection in DMX line	Check DMX cables and connections
	LINK menu is set to SEND	Set LINK menu to RECV
Haze output is weak	Machine requires priming	Prime machine (page 15)
Wet, greasy, non-uniform haze output, fluid drips or spits from nozzle, or very loud noise when firing machine	Incompatible haze fluid	Use approved fluid!
Machine appears dead	Mains fuse blown	Replace fuse (page 22)
	No power at AC cable inlet	Check power cable and circuit breaker
Machine causes DMX errors to occur on other units when connected to a DMX system	LINK menu is set to SEND	Set LINK menu to RECV

Status messages

message	reason
OFF	The heaters are Off, the unit is shut down.
HEAT	The unit is heating up to operating temperature.
RDY	The heater is at operating temperature, but Haze is not turned on (RUN set to STBY or HAZE set to 0%).
DMX	The heater is at operating temperature and the unit is under DMX control.
CONT	The machine is in run mode and is producing haze.
SLNT	The machine is in quiet run mode and is producing haze.
RN 13	The machine is in Timer mode and is in a RUN period (the number counts down to show the run time)
OF 15	The machine is in Timer mode and is in an OFF period (the number counts down to show the off time)
CAL ERR	The machine has detected an error with its calibration settings and will not operate. Contact your local JEM service center.
TEMP ERR	The machine has detected an error in the temperature sensor and will not operate. Contact your local JEM service center.
WAIT 44	The machine is running a cleaning cycle which lasts 90 seconds (number may be 90 to 0)
BATT	(on start-up) The internal battery is low and the last shutdown did not complete. If this message displays on every start-up, contact your local JEM service center to obtain a replacement battery.

Resetting the machine after fluid out

If the machine runs out of fluid, simply refill the fluid reservoir and follow the priming instructions on page 15.

Technical Specifications

Physical

Length	565 mm (22.3 in.)
Width	271 mm (10.7 in.)
Height.....	298 mm (11.8 in.)
Height with rigging kit	294 mm (11.6 in.)
Dry weight	15 kg (33.1lb.)
Filled weight	17.5 kg (38.6 lb.)

Performance

Coverage volume	5500 m ³ (194,231 ft. ³)
Operating time with 2.5 l fluid (min/max)	10.5/65 hours
Operating Time	Continuous
Ready time	6-minutes
Ambient noise	Silent mode

Control and programming

Control options	Digital control panel, programmable fast access keys, DMX, optional digital remote control, host/client link mode
Control parameters	Continuous or timer-controlled output
Haze and fan	Independent variable output, 0-100%
DMX channels	3 (Haze, Fan, Control)
Self-cleaning cycle	Battery powered automatic shutdown, manually engaged, or DMX trigger
DMX compliance	ANSI E1.11 – USITT DMX-512A
RDM compliance.....	ANSI/ESTA E1.20 RDM

Construction

Housing.....	Steel and aluminum
Color.....	Black
Heat exchanger.....	600 W trackless, thermally protected
Blower fan	Integrated, 200-2500 RPM
Fluid pump	Oscillating piston, high pressure
Fluid management	Fluid out sensing, sealed for transportation
Fluid reservoir	2.5 l drop-in reservoir with quick-connect fitting

Installation

Mounting	Standing, or optional flying kit
Orientation.....	Up to +/- 30° from horizontal
Clearance around machine.....	100 mm (4 in.)

Connections

AC Power	Neutrik powerCON
DMX, link mode in/out.....	3- and 5-pin locking XLR
Remote control.....	3-pin locking XLR
Firmware	AVR socket

Electrical

EU Model

AC Power	220-240 V, 50/60Hz
Main Fuse.....	6.3 AT (slow-blow), 250 V
Typical power and current	675 W, 3.1 A*

US Model

AC Power	100-130 V, 50/60Hz
Main fuse.....	10 AT (slow-blow), 125 V
Typical power and current	675 W, 6 A*

**Measurements made at nominal voltage. Allow for a deviation of +/-10%*

Thermal

Maximum ambient temperature (Ta max).....	40°C (104°F)
Minimum ambient temperature (Ta min)	5° C (41° F)
Exterior surface temperature, steady state	30° C (86° F)
Maximum nozzle temperature.....	290° C (554° F)

Approvals

EU safety:.....	EN 60 335-1
EU EMC:.....	EN 61000-6-3, EN 62233
EU Immunity:.....	EN 61000-6-1
Australia/NZ (pending)	RCM
United Kingdom	UKCA



"Calibration factors have been developed and approved by the Actors' Equity Association and the Broadway League for use in measuring theatrical Haze with the JEM Hazer Pro and JEM C-Plus Haze Fluid."

Included items:

Fluid reservoir, 2.5 l.....	P/N 34300521
EU, power input cable, PowerCON TRUE1, stripped ends, 3 m (9.8 ft.)	P/N M11501043
US, power input cable, 10A, PowerCON TRUE1, molded NEMA 5-15P, 3 m (9.8 ft.)	P/N M11501044
User Manual	P/N 35010039

Accessories

JEM Hazer Pro, Flying Kit	P/N 92610002
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Approved Fluids*

JEM C-Plus Haze Fluid
JEM Pro Clean and Storage Fluid

Approved Discontinued Fluids*

Pro Clean Supreme Fluid

Service Tools

Epsilon 5 AVR Programmer	P/N 50502004
Temperature Calibration Box	P/N 92620005

**Various sizes available – contact your local JEM service center or visit www.jemprofessional.com for details.*

Ordering information

JEM Hazer Pro, EU	P/N 92225940
JEM Hazer Pro, US	P/N 92225945

Specifications subject to change without notice. For the latest product specifications, see www.jemprofessional.com

**Disposing of this product**

JEM products are supplied in compliance with Directive 2012/19/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), where applicable. Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of JEM products.

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