WSM X-Series (1 / 2 / 3)
DMX Smoke Machine

User Manual

The information included in this user manual is subject to change at any time and without notification:
Version: 1.0 Date and author initials: 26-09-2022 RV

Introduction

Thanks for purchasing the Ayra WSM X-Series smoke machine. This powerful smoke machine is able to produce thick plumes of smoke to easily fill a space with mist.

Before unpacking the box, we recommend reading this user manual thoroughly to ensure that you are familiar with all of the features and functions this smoke machine has to offer. When unpacking the box, please make sure that all of the components and accessories listed below have been included. If the device does not function as it should, switch off the power and remove the power cable from the mains power socket before contacting your local retailer for further advice.

Box Contents:
- WSM X-Series smoke machine (model 1 / 2 / 3)
- Power cable IEC C13 to CEE 7/7 hybrid plug, 1.5 mm²
- Wireless remote control with battery
- Suspension bracket
- Suspension bracket mounting materials

Inspection of the Device and Included Accessories
If the device or any of the included accessories have been damaged or rendered defective in transit, please contact your local retailer for further advice.

Please note: The products seen in the images included in this manual may differ slightly from the actual products.

Contact:
Ayra Professional Lighting Products
Verrijn Stuartweg 18
4462 GE Goes
The Netherlands
This is a correspondence address only. Please do not send any physical products to this address.
If you need to send a product for repairs or for a refund, please contact your retailer for an RMA request (Return Merchandise Authorisation)

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Safety Instructions

Every person involved with the installation, operation and maintenance of this device must:
- Be qualified.
- Be skilled.
- Have read the instructions included in this user manual.
- Be sure that neither the device nor the included accessories are damaged. Should the device or the included accessories be damaged, please contact your retailer for further advice.
- Ensure that the device is in good working condition and is safe to operate. Please follow the advice and instructions as they are described in this user manual.

Damage caused by misuse and/or modifications made to the device are not covered by the warranty.

This device does not contain any parts that can be repaired or replaced by the user. Should maintenance or repairs be necessary, they must be carried out by a qualified technician.

Important Health & Safety Information:
- Do not remove any labels or stickers from this device.
- Do not leave any cables lying around where they are in danger of causing a tripping hazard.
- The housing of this device must not be opened and any hardware or software that may be present must not be modified.
- For optimal performance, any inputs should not be fed with a signal higher than necessary.
- The device must only be used indoors; contact with water, rain and moisture must always be avoided. Do not place any objects containing liquid on top of the device.
- Remove the device from any nearby flames or heat sources; do not place it near flammable fluids, gases or objects.
- Disconnect this device from a power source if it is not being used for a long period of time, if maintenance is required, or if it needs to be cleaned.

– Do not pull or tug on any cables to remove plugs as this may cause damage.
- Do not use any cables other than those specified in this manual. Do not use defective cables. Please contact your retailer if the included or specified cables do not function properly with this device.
- Only ever power this device via a stable AC mains power socket.
- Only power this device using a grounded power socket.
- In the event that the device is exposed to extreme temperature changes (e.g. transported from a cold outdoor environment into a warm indoor environment), it must not be turned on until it has reached room temperature. This is necessary to prevent moisture (condensation) from forming inside the device, which may cause electric shocks.

Use & Operation Guidelines:
- This device is intended for professional use on stages, in venues, theatres or clubs and similar entertainment locations.
- This device is not suitable for use by children and must always be operated by an adult.
- This device is designed to produce plumes/nebulae of smoke for entertainment purposes and is not designed for household use or for industrial applications (e.g. to check for leakages or to simulate smoke during fire safety exercises etc.).
- This device can only be used in appropriate environments where no damage to the device can occur. Do not use the device in moist or dusty environments such as:
    - indoor swimming pools where chlorine is used
    - beaches or any location where sand and/or salt is present
    - outdoors
    - in indoor spaces where intense heat sources are present, or where it can reach temperature levels that would be considered uncomfortable for a human being.
- Avoid impact and collisions during use and transport. Do not move or transport the device while it is in use. Avoid using excessive force when installing and operating the device.
- Any user must become familiar with the functions of this device before using it.
- In case of emergency, any user must always be able to disconnect the device from the power source. Always ensure easy access to the power supply at one of the following points:
    - The IEC C14 power input found at the rear of the device.
    - The CEE 7/7 hybrid power plug of the included power cable.
    - An external power block with an on/off switch or dual-pole switch able to cut the power.
- If the device is not operated in the manner described in this user manual, damages or even injuries could occur. Ayra will not be held responsible for any injuries or damages that occur as a result of improper use of this product.

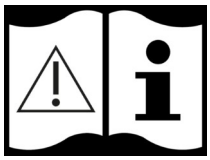
Storage & Transport:
- This device is designed for mobile use and can be transported in its original packaging or in a flight case with a foam-lined interior as long as it is well protected against shocks and impact.
- This device has not been designed for continuous (24/7) use. Regularly switching the device off will not affect the expected lifespan of the device. Always switch off and unplug the device when it is not in use.
– When the device is not in use for long periods of time, always disconnect the device from the mains power and store it in a dust free environment.
– Do not expose the device to extreme temperature shifts.

Housing:
- Frequently inspect the housing of the device and always just before use. Avoid operating the device if any large dents or cracks are found in the housing, or if screws are missing. Do not use the device if the housing is not in good condition. Contact your local retailer or a qualified technician if you are unsure about the state of the device.
- Check the device and screws for any corrosion. If any corrosion is found, do not use the device. Contact your retailer or a qualified technician if the screws or housing show any signs of corrosion.
- Ensure that every power and signal socket is securely fitted. Do not use the device if any of the sockets are not secure.
- Avoid the build up of any dust and dirt. Clean the device once a month by disconnecting it from the power supply and wiping it down with a dry or slightly moist cloth. If the device is used frequently, the device should also be cleaned more frequently.

Symbol Explanation:

	**WEEE:** Ensure that this device is disposed of properly. This product falls under the WEEE (Waste Electrical and Electronic Equipment) directive. The requirements of this directive apply to all manufacturers and producers of electronic devices in the EU. Do not throw this product away with regular household waste. Please contact your local authority for more information about how to recycle and dispose of these products in your region. By recycling this product in the proper manner, we can work together to ensure that we can continue to enjoy these kinds of products and still protect the environment as much as possible from pollution.
	**CE**: The CE mark indicates that this product meets the norms and requirements to which it must legally conform in the European Economic Area.
	**UKCA:** The UKCA mark indicates that this product meets the norms and requirements to which it must legally conform in the United Kingdom.
	**Suitable for indoor use only:** This product is designed for indoor use only.

Battery Safety:



WARNING!
There is a danger of explosion if the battery is not replaced correctly.
Always replace the battery with the same battery type and quality.
Never expose batteries to intense heat such as sunlight, open flames etc.
Never leave batteries in any high temperature environment to avoid the danger of explosion or the leakage of flammable gases or liquids.
Never burn a battery or place it in a hot oven. Never damage a battery by cracking or making any holes or incisions in the outer casing as this may cause the battery to explode.
Never expose a battery to extremely low air pressure levels (at higher altitudes) to avoid the danger of explosion or the leakage of flammable gases or liquids.
If the device is not in use for a long period of time (for example, a few months), the battery must be removed from the device.
Always remove empty batteries from the device immediately.
Never store batteries separately. Do not carry batteries in a pocket, wallet or bag. Contact with other metal objects such as coins, keys, etc. can cause leaks, cracks or short circuits.
Always store batteries out of reach of children.

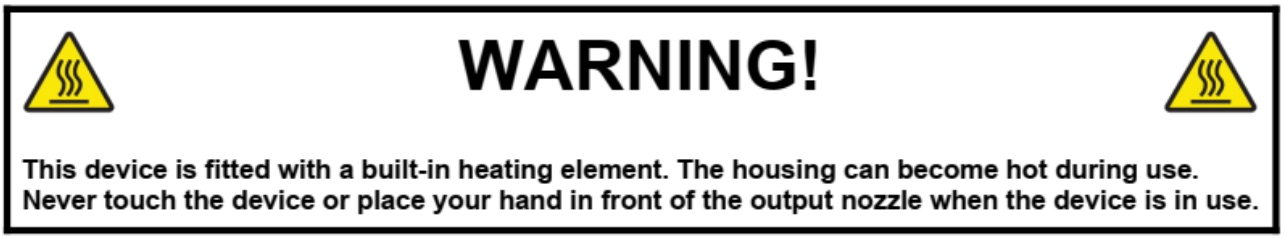
Battery Recycling:

Never dispose of batteries along with the rest of your normal household waste. Batteries may contain substances that are harmful to the environment. When batteries are correctly recycled, they are a valuable source of reusable materials. Contact your local council for information about the safe disposal and recycling of batteries.

General Smoke Machine Operating Instructions & Warnings

General Operating Instructions:
- Use water-based smoke machine fluid only. Never use any oil-based smoke fluid.
- Ayra recommends using water-based Ayra smoke fluid in combination with this device, which has been optimised for use with Ayra smoke machine fluid.
- Using any other smoke machine fluid than specified may reduce the lifespan of the device due to the possible build up of residue in the smoke fluid circuit.
- The use of any other smoke machine fluid than specified may cause the machine to spray hot liquid as well as smoke output.
- It is recommended to remove any remaining fluid from the tank before transporting the device.
- If the device is transported in an upright position, the smoke fluid tank can be filled to a maximum of 50%. Because the fluid tank cap is not waterproof, any internal splashes may cause leakage.
- Whenever the device is switched on, it must always be positioned so that it can be monitored by the user.
- The device must always be connected to a power supply that can be immediately disconnected in case of emergency. This can be a standard power strip placed within reach or a power socket fitted with a two-pin switch that can immediately interrupt the power supply if the device is out of reach.
- The device must not be installed in a fully closed housing. Sufficient space must always be maintained around the device to enable adequate ventilation and monitoring of the device.

Temperature Related Regulations:



- After the device has been switched on, the heating element requires time to warm up before the device is ready for use. The device can not be used immediately after it has been switched on.
- The temperature setting of the device is optimised during manufacture and can not be adjusted by the user.
- At close range, the smoke emitted from the output of the nozzle is very hot. Make sure that children, animals, any flammable objects or electronics are not placed directly in front of the device.
- When the device is no longer in use, always make sure it has been switched off and unplugged. Following use, the device will still be hot and requires time to cool. Always allow a minimum of 20 minutes for the housing to cool before moving or transporting the device.
- Even after the device has been switched off, the output nozzle may emit small plumes of smoke.

Ventilation & Health & Safety Related Regulations:

WARNING!

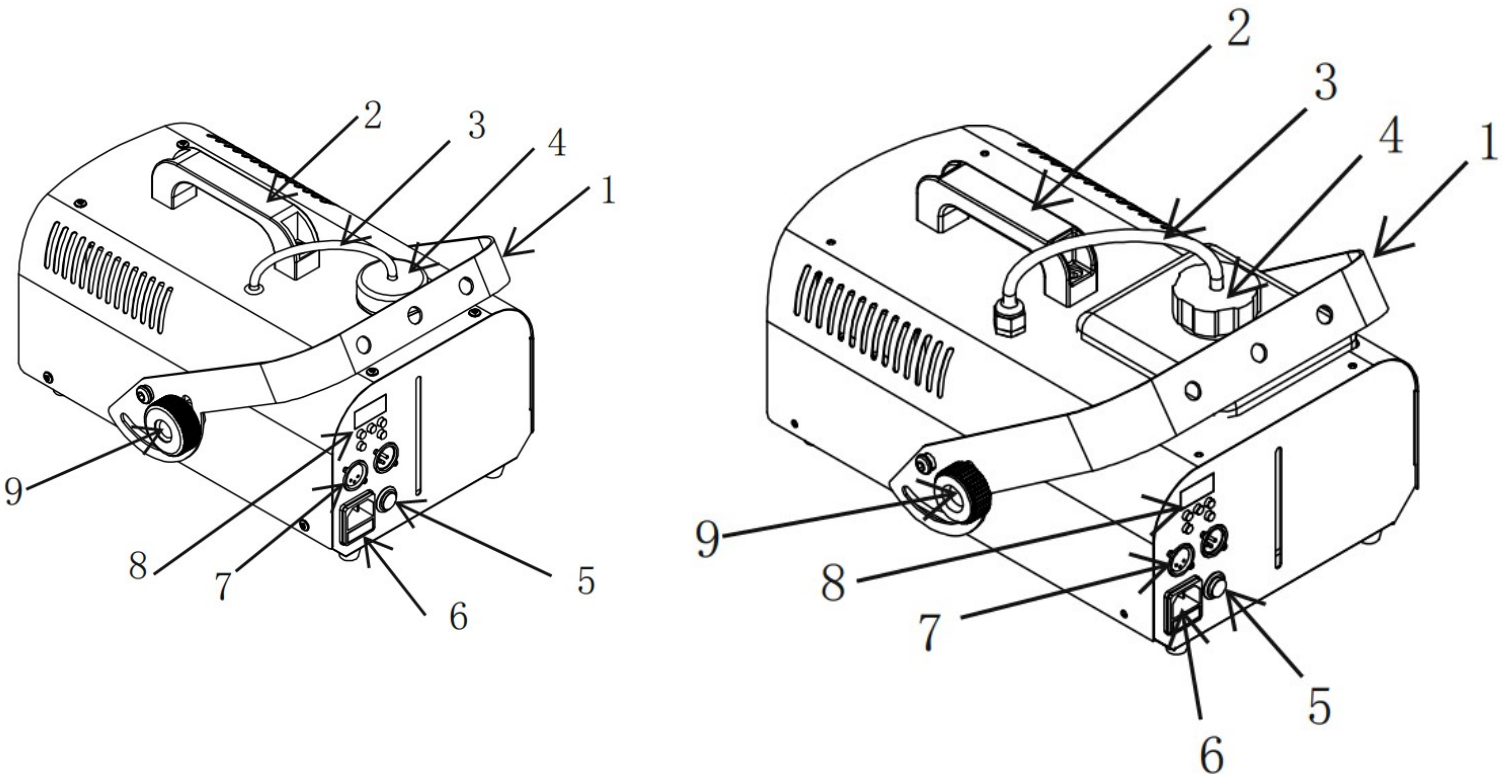
Large volumes of smoke emitted in a poorly ventilated space can lead to light-headedness or dizziness. If these symptoms are experienced by anyone in the space then smoke production must be stopped immediately and the space must be ventilated by opening a window or activating some form of air ventilation system to allow fresh air to circulate.

- When using a smoke machine, always make sure that the space is sufficiently ventilated. Fresh air must be allowed to circulate the space and any mist or smoke must be able to escape.
- Be aware of the amount of smoke being produced. To ensure that light bundles are visible, only a small level of smoke output is required. Immediately stop smoke production if visibility is less than 2 metres at any point in the space.
- The mist produced by this smoke machine is not harmful to health as long as the user constantly monitors the smoke output and ensures sufficient ventilation. Among other ingredients, water-based smoke fluid contains propyleenglycol (in low concentrations of no more than 30%) and demineralised water. Depending on the smoke fluid in use, it can also contain other substances.

Housing Related Regulations:
- Before use, always make sure that the output nozzle is not blocked.
- The output nozzle of the machine must never be fitted with a tube or hose.
- If the machine is standing or suspended, it must not be tilted up or down by more than 15%.
- If the machine is suspended, always ensure that it is secured in place using a safety cable (not included).
- If the machine is standing, it must be placed on a flat, stable surface.
- The machine must only be suspended from a solid and stable construction.
- The machine must never be handled or tilted while operating.
- The handle integrated into the housing of the machine is only intended for moving the machine when it is switched off, unplugged and cooled down.
- This machine is not designed to be suspended directly above a crowd, audience, or any people in case the nozzle emits spatters of hot smoke fluid during smoke production.

Smoke Fluid Related Regulations:
- Whenever a bottle of smoke fluid is opened to fill the fluid tank, both the bottle and tank must be firmly sealed after use. If not, potentially harmful bacteria may form.
- Always store smoke fluid out of reach of children.
- The smoke fluid tank of the Ayra WSM X-2 and the Ayra WSM X-3 can be removed from the machine when the cap is unscrewed from the tank and the suction hose has been removed.
- Always use some form of funnel or spout when refilling the smoke fluid tank to avoid spilling any fluid. If spilled, smoke fluid can leave surfaces slippery and hazardous.

Overview



Left: the WSM X-1. Right: the WSM X-2 / WSM X-3.

1. Suspension bracket
2. Transport handle
3. Suction hose (links the fluid tank to the machine)
4. Smoke fluid tank (non-removable on the WSM X-1) with cap
5. Manual control button for e.g. smoke output
6. Power input via IEC C14 + integrated fuse compartment
7. 3-pin M-XLR and F-XLR input and output for e.g. DMX
8. LED display with 5 menu function buttons
9. Suspension bracket adjustment knob

Controls & Operation

WSM X Series smoke machines have various control options, giving the user the choice of diverse control methods, each with their own features.

Note! Certain settings relating to details like the operation time of the machine (for example: the desired smoke output duration) may deviate from desired results due to the functionality of the appliance.

For example: when using a lower powered machine like the WSM X-1 which has a 900 W heating element, the maximum output duration of 500 seconds can be set via the built-in menu. In theory, this equates to over 8 minutes of more-or-less continuous smoke production. Because the heating element will need to periodically reheat, the output will pause until the element is brought back up to minimum temperature, at which point smoke output will resume.

Any user should familiarise themselves with the features offered by the smoke machine and adjust the functions so that they meet their requirements.
In practice, and depending on the smoke machine model, it is usually sufficient to set the machine to produce short bursts of smoke in intervals.
For example: 20 second periods of smoke output divided by 2 minute intervals.
Of course, this depends on the desired effect and the space where the machine is being used. But this outline provides a good starting point for users and can be experimented with and adjusted as needed.

The menu display has the following buttons for triggering/controlling the following basic functions:

Menu Button	Function	Explanation/Values
☰	Change menu	Scroll button for browsing various menu functions.
▲	Value up	When an adjustable function is accessed, using the ▲ button, the value (function intensity) can be raised until the maximum point is reached.
▼	Value down	When an adjustable function is accessed, using the ▼ button, the value (function intensity) can be reduced until the minimum point is reached.
<TIMER>	Timer function	Direct access to the timer menu, where the timer function settings, including output duration and interval duration, can be adjusted.
<VOLUME>	Volume function	In all control modes apart from DMX, the volume setting determines the output intensity i.e. the volume of smoke output.

In the menu, the following settings can be adjusted to configure basic operation as needed:

Display message	Function	Explanation/Values
	Warming up	When the machine is switched on, the display message will read ‘UP’ indicating that the heating element is warming up. This display message can also appear during smoke production when the temperature of the heating element drops below a specific level and needs to reheat. In practice, the machine will reheat after emitting smoke for longer durations (>20 seconds). The machine is not able to produce smoke while warming up. Menu settings can be adjusted while the machine is warming up.
	Ready	The machine is warmed up and ready for use. If the timer function is not active, then the machine will wait to be triggered manually via the control button, via the remote control, or via DMX (when connected).
	Set DMX address	The DMX start address can be set to determine which DMX channel the machine is commanded by. With 1 channel, the output intensity can be controlled. The DMX start address can be set between 1 and 512.
	Smoke machine output volume/intensity	This function controls the intensity of smoke output when smoke production is manually triggered. This function does not affect output intensity when the machine is DMX controlled. The output volume can be set between 0 and 100.
	Interval setting	This function sets the interval length between smoke production when the timer function is active. The interval can be set between 1 and 500 seconds.
	Duration setting	This function sets the duration of smoke production when the timer function is active. The duration can be set between 1 and 500 seconds.
	Remote control on/off	The wireless control function of the machine can be switched on and off. Switching off this function prevents similar wireless remote control models from being able to control the machine. It can be useful to switch off the wireless function when the timer function is used. When DMX control is used, the wireless function is automatically bypassed.

1. Manual Control

All WSM X-Series smoke machines are fitted with a green button on the rear that can be pressed and held to activate smoke production at any time (as long as the machine is not warming up) and without using any of the other operating modes.

The machine will continue to produce smoke as long as the green button is pressed and held. When the green button is released, the machine will stop producing smoke.

This function is designed for short-distance use. As with all smoke machines, the button can be held down continuously until the function is interrupted when the heating element needs to reheat. The green button will not function while the machine is reheating.

2. Wireless Remote Control

All WSM X-Series smoke machines have a built-in receiver to connect to the included wireless remote control. The remote control is a handheld wireless transmitter in a keyring-sized housing and fitted with a safety cover that can be used to prevent accidental activation.

The wireless transmitter features a retractable antenna and operates over the 433 MHz frequency band which is less directionally sensitive than e.g. infrared, so the smoke machine can be controlled easily from a distance. Both remote control buttons trigger 100 % output and are coupled with an LED indicator that lights up to confirm that the signal has been sent. Large obstructions between the transmitter and machine can hinder the range of the remote control (obstructions like an audience of people or concrete walls).

Note that the remote control does not establish a unique connection with a specific machine. All WSM X-Series remote controls can therefore be used to control multiple WSM-X Series machines.

- The remote control comes with an A23 battery (12 V, L1028 / LR23A).
- The battery is pre-installed as standard.
- The battery can be replaced by unscrewing the back of the housing using a precision screwdriver.
- The remote control can be used to control and activate the machine.
- During activation, the machine may pause smoke production to warm up. The remote control cannot be used to override the warm up process.
- The remote control features a Lock and Unlock button. Press Unlock to activate smoke production. Press Lock to deactivate smoke production.
- The intensity of smoke production can be set via the menu display on the machine. Enter the VOLUME function to adjust the output intensity (smoke volume) between 0 and 100 %.

Note! When DMX control is established (see later in this manual) the wireless connection to the remote control is automatically switched off. This is to prevent third parties from controlling the machine via other wireless devices.

3. Built-In Timer

All WSM X-Series smoke machines feature intelligent built-in technology that can be configured as needed via the fitted display menu and menu buttons.

The settings accessed via the menu relate to the operation mode and also include options to set fully automatic operation, providing control over the intensity of the smoke, the duration of smoke production, the interval length between smoke production, and other parameters.

4. DMX Control

When a DMX controller is connected via the 3-pin XLR ports of any WSM X-Series smoke machine, the machine can be sent DMX signals and controlled as part of a larger DMX setup alongside stage lighting and other DMX controlled equipment.

The DMX start address can be set between channels 1 and 512 so that the machine can be controlled separately. Multiple machines can be chained and set to the same DMX start channel so that they can be controlled via the same channel.

The machine can be controlled via one channel which grants DMX control over the output intensity. Values 0 to 255 set the intensity between 0 and 100 %.

This ensures that in the normal setting (0, blackout), the machine produces no smoke until the channel value is increased to the desired level.

Note that the output volume can be set to a fixed value, but during continuous smoke production, the output circuit may be interrupted when the heating element drops below the minimum temperature and needs to reheat.

Installation & Operation

To use this smoke machine as it was intended, Ayra advise reading the following instructions in full before using any of its functions.

Smoke Fluid
Before switching the machine on, make sure that the smoke fluid tank is filled to a sufficient level. Filling the tank halfway is recommended. Since this machine is designed for use with Ayra smoke fluid, using Ayra smoke fluid will ensure the best performance. Good smoke fluid leaves little residue, is more efficient, creates longer lasting smoke and results in near-odourless smoke. The use of any other smoke fluid can affect the lifespan of the device and may result in side-effects including the emission of hot fluid sprays from the output nozzle.

Never fill the tank to full capacity. A maximum level of ¾ capacity is sufficient. Overfilling the tank may lead to spilling when the machine is moved.

The smoke fluid consumption level depends on the smoke machine model, the smoke fluid used and the space that the machine is used in. As such, it is difficult to determine an accurate indication of general smoke fluid consumption.

Regularly monitor the smoke fluid level during use. No indicator has been built-in to signal a low smoke fluid level.

If the smoke fluid level is too low, the pump will produce more noise and the volume of smoke production will drop dramatically. If this happens, immediately stop smoke production and refill the smoke fluid tank. Operating the machine for long periods when the smoke fluid tank is empty can cause permanent damage.

The user is responsible for ensuring that the tank is filled with a sufficient level of smoke fluid at all times. Any damage caused by operation when the smoke fluid tank is empty is NOT covered by the warranty.

Installation & Positioning
All WSM X-Series smoke machines can be set up in a stable position whether standing or suspended. To prevent public access to the machine, it is recommended to place the machine out of reach, or in a place where the machine can be continuously monitored to ensure that it is not tampered with.

If the machine is elevated by placing it on a bar, DJ booth or table, the surface must be stable, solid, and have a reasonable level of heat-resistance. Never place the machine on a sheet, tarpaulin, cloth, rug or foil. Ensure that children are unable to pull on cables and that any loose cables are neatly routed to prevent creating a tripping hazard.

If the machine is installed in a suspended position, then the minimum guidelines detailed below must be observed:

- The suspension bracket must be correctly installed using the included mounting hardware.
- The suspension bracket tightening knobs must be tightly secured so that the machine cannot move, but must never be forced.
- The bracket must only be secured to structures like a truss using decent hardware like a G-hook or half-coupler that has a higher maximum weight bearing capacity than the machine.
- A safety cable (not included) must be looped through the handle of the machine and wrapped around the supporting structure (e.g. a truss).
- The safety cable must be securely mounted so that, if the machine were to fall, it would not be able to fall further than 30 cm. The safety cable can be wrapped around the supporting structure several times to reduce the fall distance.

If the machine is mounted onto a wall, beam or ceiling, seek the advice of a specialist to ensure that you're using the correct hardware and equipment. In this case, a safety cable mounting point must also be installed so that a safety cable can be secured according to the guidelines above.

Warming Up
As soon as the machine is switched on, the internal heating element will need to warm up to temperature. The machine cannot be used during the warm up process. LEDs will illuminate the smoke fluid tank to

indicate the status of the machine:

- **RED**: Warming up
- **BLUE**: Fully warmed up and ready for use.

It is recommended to always allow enough warm up time before use and a cool down period of at least 20 minutes after use to ensure that the heating element is fully cooled.

Smoke Production
When smoke production is triggered manually, via DMX, or using a wireless or cabled remote control, the pump will start to suck smoke fluid from the tank and feed it through the heating element. The output nozzle at the front of the machine will then emit plumes of smoke. The nozzle is a round cap punctured with holes.

At full power, the machine is able to produce smoke continuously for approximately 20 to 30 seconds. This approximation will depend on the model. After this duration, smoke production will stop and the LED indicator will be lit red to indicate that the machine is warming up. This process is normal for most smoke machines. As soon as the temperature has been raised to the correct level, the machine is unlocked and ready to produce smoke again.

It is not possible to use the machine during the warm up process and if the red status LED is lit.

When the output power is adjusted, in some cases it's possible for the machine to produce smoke continuously.
To achieve continuous smoke production, the output volume must be set to a relatively low level so that the operating temperature of the heating element is not affected.

Thermal Overload Protection
All WSM X-Series smoke machines feature an internal thermal overload protection circuit mounted above the heating element. This component has a bimetallic strip that completes a circuit depending on the detected temperature. The heating element is included in the circuit. As long as the temperature is below a critical level, the thermal circuit will continue to feed power to the heating element.
As soon as the temperature reaches a higher level than the nominal operating temperature of the machine, the bimetallic strip bends to immediately interrupt the circuit connecting the heating element. An internal button can be pushed to restore and reset the thermal overload circuit. This circuit prevents the heating element from getting so hot that it is in danger of causing permanent damage or injury.

This circuit has been installed as a level of protection and should never interrupt the operation of the heating element during normal use.
If this does occur, the machine will continuously try to warm up the heating element, but the heating element will never rise to temperature.
This may also indicate a defect in the heating element itself because the internal heating element power supply is interrupted.

<u>If the thermal overload protection circuit is disabled, any eventual damage this may cause will not be covered by the warranty. The housing must not be opened to manually reset the thermal overload circuit and can only be reset by a qualified technician.</u>

Triggering Alarm Systems (smoke detectors, fire alarm systems etc.)
When the machine is used in any public space or any space with a fire alarm system installed, the user must contact the building owner or the company that installed the fire alarm system.

Many public spaces have an optical fire alarm system installed which is triggered by the presence of smoke or mist. The smoke produced by this machine may trigger such alarm systems, resulting in unnecessary panic and emergency service call-outs.

Some public spaces have thermal smoke detectors installed which are triggered by a rise in temperature. The smoke produced by this machine cannot trigger these systems.

<u>For the sake of the safety of yourself, your crew and audience, never deactivate the fire alarm system or smoke detection system!</u>

Parts & Repairs
This device does not include any spare parts and cannot be repaired by the end user. If any defect does occur, the device can only be checked and repaired by a specialist.

Cleaning & Maintenance
The exterior of the device can be cleaned with a dry or slightly moist microfibre cloth once a month. Always make sure that the device is switched off, unplugged from the power point and fully cooled down before cleaning or performing any maintenance.

Regularly check that any screws are tightly secured and check the device and screws for any signs of corrosion. If any corrosion is found, do not use the device. Contact a qualified technician if the screws or housing show any signs of corrosion

Controlling Your Smoke Machine with a Wireless Remote Control
The wireless remote control included with this device uses a directionally sensitive radiographic FM signal. The remote control has a range radius of 30 metres around the device. The signal strength is strongly determined by spacial factors including whether or not the remote control is within the direct line of sight of the device. Certain objects and walls between the remote controller and device will significantly diminish the signal strength.

The link between the remote control and device cannot be adjusted and is not a secure signal. As such, multiple WSM X-Series smoke machines can be controlled using a single remote control. But it is also possible for the device to be triggered by remote controls that operate using the same frequency if the wireless receiver is not switched off.

When using the remote control, it is recommended to extend the retractable antenna to ensure optimal transmission range.

When either of the buttons of the remote control are pressed, a red LED indicator will light up to indicate that the signal has been sent. If the LED does not light up and the device does not respond, then the battery may need to be replaced.

WSM X-Series remote controls are powered by a standard A23, 12 V (L1028 / LR23A) battery. The battery can be replaced by removing the back panel of the remote control using a precision cross-head screwdriver.

Always replace the battery with the same size and type/model of battery. When installing a new battery, ensure that the polarity is correct.

After replacing the battery, make sure that the back panel of the remote control is securely screwed back in place.

During transport or when the machine is not in use, the buttons of the remote control can be protected by a clip that prevents the remote control from transmitting a signal when the buttons are accidentally pressed.

Installing the Smoke Machine

All WSM X-Series smoke machines come with a suspension bracket so it can be secured to structures like a lighting stand or truss.

The suspension bracket can be fitted to the smoke machine using the included hardware.
The hardware pack includes four flexible washers, two bolts and two tightening knobs.

The washers are placed between the bracket and the housing of the smoke machine to prevent scuffing and scratching the housing while installing and adjusting the bracket.

The bolts are then screwed into the small hole at the centre of each side of the bracket..
Then, the tightening knob can be inserted through the milled slot of the bracket to be installed.

The construction of the suspension bracket ensures that the smoke machine is always stable but can be adjusted and fixed in place by slightly adjusting the tightening knob.

Because it is always possible for the smoke machine to emit hot spatters of smoke fluid during smoke production, the smoke machine must not be installed where members of the public will be moving/standing. A minimum of 2 metres of horizontal distance must be maintained between the output nozzle and any members of the public. If this is not possible, then try rotating the machine or installing it at a lower level, for example.

The smoke machine must not be installed at an angle greater than 15 degrees. When installing the machine in a tilted position, the user must take the decreased capacity of the smoke fluid tank into account.
While the suspension bracket has a large installation range in terms of tilt, this is intended to compensate for the installation position and is not designed for tilted installation.

Storage & Transport
If the machine is not in use for an extended period (within 2 to 3 weeks), then it is advisable to to empty the smoke fluid system completely. This will prevent the build up of smoke fluid residue which can lead to blockages.

To flush out the smoke fluid system, switch on the machine and ensure it is ready for operation. Unscrew the smoke fluid tank cap and remove the hose. To ensure that the hose does not collect any dust or dirt, store it in an empty plastic cup (for example).

Using any of the control methods, trigger smoke production until you notice that the pump starts to make more noise than usual and the volume of smoke production is suddenly reduced, indicating that the fluid system is now empty. As soon as this occurs, stop smoke production and switch off the machine. After it has completely cooled, it can be safely stored for longer periods.

Note that when the smoke machine is used again, it may take longer than usual for the smoke fluid system to draw sufficient fluid. This may cause the pump to make more noise than usual before becoming quieter and the machine starts to produce smoke.

Never allow the machine to operate for long periods when the smoke fluid tank is empty. This can cause permanent damage to the pump.

Switching Off & Cooling Down the Smoke Machine
If the smoke machine is no longer in use or the fluid system has just been emptied, then the machine can be switched off. Note that the machine cannot be moved or transported immediately after switching off.

Allow a minimum of 20 minutes for the machine to cool down, allowing the core temperature of the heating element to reach a low level so that it is less vulnerable to impacts, shocks and knocks that may affect its

lifespan.

If the smoke machine is moved immediately after switching off, this may damage the heating element to the point that the machine is no longer able to warm up when switched on.

Ideally, the machine is switched off immediately after use so that the heating element has enough time to cool down before transport.

During the cooling down process, the smoke machine may produce small puffs of smoke.

Ensure that the smoke machine is well ventilated during the cooling down process and is not covered in any way. E.g. by packing it in the original box or in a flight case.

What to do when smoke production is reduced or no smoke is produced
If the smoke machine produces less smoke than normal or no smoke at all, then the system may be clogged. To fix the issue, the pump must still be functioning.

If the pipe circuit is clogged, it can be cleaned out by pumping a cleaning solution through the pipe circuit.

The cleaning solution must be a mix of 4 parts distilled water to 1 part smoke machine cleaning agent. This can be mixed in a plastic cup or similar receptacle. No more than 500ml of solution needs to be prepared. Distilled water can be found at any good supermarket, hardware store or pharmacist.

Always use distilled water and never normal tap water as this may lead to a build-up of limescale in the smoke fluid circuit!

Remove the suction pipe from the tank and ensure that all of the cleaning solution has been drawn in. Because residual smoke fluid is likely to be present in the pipe circuit, the smoke machine will only produce a little smoke at first. If the cleaning solution is circulating as it should, the smoke will slowly turn into light steam. If the machine is completely blocked, the volume of steam may increase.

Run the machine at maximum output capacity making sure not to allow the cleaning solution to circulate more than three times (Warm up → produce smoke → warm up → produce smoke → warm up → produce smoke). Make sure not to carry out the process for longer than necessary as this may damage the pump due to lack of lubrication. Smoke fluid is generally greasy to help lubricate the internal smoke fluid circuit.

If there is no noticeable improvement, then it is very likely that the smoke fluid circuit is fully blocked and cannot be repaired by the user.

If there is noticeable improvement, then empty the smoke fluid circuit by following the steps detailed above. When the smoke machine is used for the first time after it has been cleaned, it will take longer than usual for the smoke fluid to be drawn in and for the machine to produce a normal volume of smoke.

WARNING: Never use normal tap water or bottled drinking water to clean or fill a smoke machine. Tap and bottled water contains substances like lime which can leave deposits in the pipe circuit. This will only make any blockages worse and can cause irreparable damage to the machine!

Ayra recommends using specially formulated smoke machine cleaning fluid.

Using Smoke Fluid Additives (scents)
The use of smoke fluid additives such as smoke fluid scents is NOT recommended as it can negatively affect both the performance and lifespan of the smoke machine.

Any damage caused by the use of any smoke fluid additives is not covered by the warranty.

Most scented smoke machine additives are extremely concentrated. If you do use any additives, only a couple of drops added to one full fluid tank is sufficient to create the desired effect. Always read the manufacturer's instructions before use.

Recommended Smoke Fluid
This smoke machine has been optimised for use with Ayra smoke fluid.
Ayra smoke fluid is available in 5 litre bottles of light, medium and heavy fluid. Using this fluid in combination with any Ayra WSM X-Series smoke machine will result in the best performance.

The use of any other smoke fluid is strongly discouraged as it can cause the nozzle to spray hot fluid or to produce strong smelling smoke.
It can also considerably reduce the lifespan of the smoke machine.

LED Indicators
All Ayra WSM X-Series smoke machines are fitted with LED indicators that illuminate the smoke fluid tank, alerting the user to its status in darker environments.

When the **red** LED is lit, this indicates that the smoke machine is warming up.
During the warm up process, smoke cannot be produced.

When the **blue** LED is lit, this indicates that the smoke machine is ready for use.

Smoke Machine & DMX Problem Shooting

If you happen to encounter any problems while using this smoke machine, we recommend checking this troubleshooting section to see if a solution can be found. If none of the suggested solutions included below solve your particular problem, please contact your local retailer for further advice.

This troubleshooting section includes all of the most common possible issues and is not a complete list of every possible fault, defect, and their subsequent solution. This section is generally focussed on solving problems regarding smoke machines and DMX related issues. Some of the included problems, causes, and solutions may not apply to your situation since product specifications can differ.

Problem	**Possible Cause**	**Solution**
The smoke machine is not switching on	Blown fuse	Check that the fuse is not blown. If it is, replace it with a new fuse of the same rating and type.
	Power cable not plugged in	Make sure that the power cable is securely plugged into the rear of the device and into a mains power socket.
The smoke machine is not responding to DMX signals	Incorrect DMX start address	Make sure that the correct DMX start address is selected via the fitted display menu.
	DMX controller is set to 'blackout'	Make sure that the 'blackout' function of the DMX controller is switched off.
	The polarity switch of the DMX controller is not correctly set	Try flipping the DMX controller polarity switch.
	Smoke machine not responding. No DMX signal indication	Test the connected XLR cables and replace them if needed.
The smoke machine is not producing smoke	The smoke machine is still warming up	If the smoke fluid tank is lit up by the red LED, the machine is still warming up.
	Smoke fluid tank empty	If the operation of the pump can be heard but no smoke is being produced, then the smoke fluid tank may be empty. Check the level and, if necessary, refill the tank.
	Smoke machine is clogged	If the smoke output level is very low or only very weak puffs of smoke are being produced, then it may be that the internal fluid circuit is clogged.
	Thermal overload circuit activated	In the event of a technical defect that prevents the heating element from warming up (normally the internal digital thermostat regulates the heating element), it may be that the thermal overload circuit has been activated, stopping power reaching the heating element. The circuit can only be checked and reset by a technician by pressing the internal reset button. The user must not open the housing of the machine to make any repairs or modifications. If the machine has developed a serious defect, resetting the thermal overload circuit before any issue is fixed can cause serious damage and/or injury!
The machine is producing small puffs of smoke when no command has been given	Machine is cooling down	If the machine has just been switched off, then it can sometimes continue to produce small puffs of smoke while the system cools down.
	Machine is warming up	If the machine has just been switched on, it can sometimes produce small puffs of smoke while the system warms up.
The DMX signal is intermittent and the	Broken/defective cables	Test all connected DMX cables and replace any broken or defective cables if necessary.

Problem	Possible Cause	Solution
machine is responding strangely	Power interference on DMX signal	Avoid installing power cables parallel to DMX signal cables.
	No DMX terminator	End the DMX circuit with a DMX terminator.
	Signal loss or DMX circuit malfunction	End the DMX circuit with a DMX terminator or connect a booster after every 32 fixtures in the circuit.
Smoke machine output nozzle is spraying smoke fluid	Incompatible smoke fluid	Make sure to use the correct smoke fluid. The use of any other smoke fluid may cause the machine to spray fluid.
	Malfunctioning heating element or thermal monitoring system	If the heating element or other parts of the thermal system are not functioning as they should, this may cause the machine to spray fluid. If you're not certain of the cause, switch the machine off and contact your retailer for further advice.
The wireless remote control is not working	Battery is empty	If the battery of the remote control is empty, then replace it with the same model/type.
	Smoke machine is out of range	If the distance from the machine is too great, the remote control will be out of range. Try controlling the machine at a closer range, making sure that the remote has a clear-line-of-sight to the machine with no obstructions, and that the remote control antenna is fully extended.

Technical Specifications

General specifications:
- Powerful smoke machine
- Operated using water-based smoke fluid
- Optimal results when used in combination Ayra smoke fluid
- Fluid tank LED indicators (red, blue)
- Exterior smoke fluid level status lit by LED indicators
- Basic settings (output volume and timer control) via LED display menu and buttons
- Output button on rear for manually triggering smoke production
- Can be controlled via DMX (1 channel)
- DMX connection via 3-pin XLR input and output
- Power input via IEC C14 port with fuse compartment
- Mains voltage: 230 V AC, 50 Hz
- Remote control operating frequency: 433 MHz
- Remote control transmitter power: 4.56 mW

Included accessories:
- Wireless remote control in a keyring housing with two control buttons, an LED indicator and safety cap
- Suspension bracket
- Suspension bracket mounting hardware

Battery type (for remote control):
- Type A23 battery, 12 V (L1028 / LR23A / IEC 8LR932), pre-installed

Specifications per model:

Feature	WSM X-1	WSM X-2	WSM X-3
Heating Element	900 W	1200 W	1500 W
Warm up time from cold power up	approx. 2 minutes	approx. 2:30 minutes	approx. 3 minutes
Warm up time during use (following initial warm up cycle)	approx. 30 seconds	approx. 35 seconds	approx.45 seconds
Temperature regulator	Electronic thermal regulator		
Max. output distance	approx. 4 to 5 metres	approx. 6 to 7 metres	approx. 7 to 9 metres
Output duration at 100%	approx. 20 seconds	approx. 30 seconds	approx. 15 seconds
Smoke fluid consumption rate	approx. 22 minutes per litre at 100 % output*	approx. 18 minutes per litre at 100 % output*	approx. 13 minutes per litre at 100 % output*
Smoke fluid level sensor	None		
Smoke fluid capacity	1 litre**	2.3 litre**	
Compatible Ayra smoke fluid (not included, sold separately)	Ayra Light 5 litres Ayra Medium 5 litres Ayra Heavy 5 litres Water-based smoke fluid		
Mains voltage	230 V AC, 50 Hz		
Max. power consumption	1000 W	1300 W	1600 W
Fuse	T6.3AL250V	T8AL250V	T8AL250V
Machine net weight	3.5 kg	4.9 kg	5.3 kg
Machine weight inc. packaging	4.3 kg	5.8 kg	6.2 kg
Machine dimensions	329 x 261 x186 mm	396 x295 x 187 mm	
Dimensions inc. packaging	387 x 264 x 220 mm	447 x 307 x 220 mm	

*The indicated smoke fluid consumption rate is calculated during continuous use including warm up intervals. Results may vary.
**This indicates the maximum capacity of the smoke fluid tank. It is not recommended to fill the tank any further than ¾ of the maximum capacity.

CE

EU Declaration of Conformity

Ayra Professional Lighting Products
Verrijn Stuartweg 18
4462 GE Goes
The Netherlands

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Products code:	Product name:
Ayra WSM X-1	Smoke Machine 1000W
Ayra WSM X-2	Smoke Machine 1300W
Ayra WSM X-3	Smoke Machine 1600W

The objects of the declaration described above are in conformity with the relevant Union harmonisation legislation:

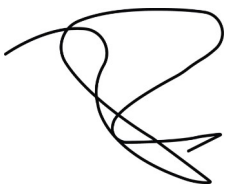
Directive 2014/53/EU of the European Parliament and of the Council concerning the harmonisation of the laws of the Member States relating radio equipment being made available on the consumer market RED):
Applied standards:
EN 62368-1:2020+A11:2020,
EN IEC 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021
EN 62233:2008
EN 62479:2010,
EN 50663:2017,
ETSI EN 301 489-1 V2.2.3 (2019-11),
ETSI EN 301 489-3 V2.1.1. (2019-03).
ETSI EN 300 220-1 V3.1.1. (2017-02).
ETSI EN 300 220-2 V3.2.1. (2018-06).

Directive 2011/65/EU of the European Parliament and of the Council concerning the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).
Applied standards:
IEC 62321-3-1:2013,
IEC 62321-4:2013,
IEC 62321-5:2013,
IEC 62321-6:2015,
IEC 62321-7-1:2015,
IEC 62321-7-2:2017,
IEC 62321:2008.

Signed for and on behalf of:

Ayra Professional Lighting Products Goes, 26-09-2022

Jochanan Bax, Director



UK Declaration of Conformity

Ayra professional lighting products
Verrijn Stuartweg 18
4462 GE Goes
The Netherlands

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product code:	Product name:
Ayra WSM X-1	Smoke Machine 1000W
Ayra WSM X-2	Smoke Machine 1300W
Ayra WSM X-3	Smoke Machine 1600W

The objects of the declaration described above are in accordance with the relevant UK legal requirements:

Radio Equipment Regulations 2017.
Applied standards:
EN 62368-1:2020+A11:2020,
EN IEC 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021
EN 62233:2008
EN 62479:2010,
EN 50663:2017,
ETSI EN 301 489-1 V2.2.3 (2019-11),
ETSI EN 301 489-3 V2.1.1. (2019-03).
ETSI EN 300 220-1 V3.1.1. (2017-02).
ETSI EN 300 220-2 V3.2.1. (2018-06).

The Restriction of the Use of Certain Hazardous Substances in Electrical Equipment Regulations 2012 (RoHS).
Applied standards:
IEC 62321-3-1:2013,
IEC 62321-4:2013,
IEC 62321-5:2013,
IEC 62321-6:2015,
IEC 62321-7-1:2015,
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Jochanan Bax, Director