

# Instruction manual



from haze**base**



## Scope of delivery

- 1 ultimate
- 1 5l empty canister
- 1 tank cap with quick coupling
- 1 fluid hose with quick coupling and nozzle
- 1 power cable with TrueOne plug
- 1 tank holder
- 1 instruction manual

Please check that the delivery is complete.

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## 1. Introduction

The ultimate is a powerful fog machine with unique direct heating. It requires only the shortest possible heating time (2 sec.) and also has a stainless steel housing with IP64 protection class.

The possible applications are varied and range from theme parks and fire drills to large stages.

## 2. Safety instructions

Very hot steam emerges from the mist outlet. **Caution: Danger of burns !** During the fogging process, very hot fluid droplets may occasionally escape from the fog outlet. Therefore, no persons or heat-sensitive objects may be located within 1.5 m of the fog outlet.

Never handle the mist outlet during operation or when activated.

The appliance must be installed in a location that is not heat-sensitive. Keep a minimum distance of 60 cm to flammable, combustible and heat-sensitive objects.

The fog fluid used contains a glycol which burns with a slightly bluish, almost invisible flame. Therefore, never fog into strong ignition sources such as open fire.

Never open the appliance connected to a power source.

During operation, isolated hot fluid droplets may escape. Care should therefore be taken to ensure that these cannot become a danger to people. Maintain a safety distance of 3m from the mist outlet nozzle.

Do not ingest the fog fluid and keep it away from children. In case of eye contact, rinse with plenty of water. If inadvertently taken, consult a doctor. Spilled or splashed fluid can cause slipping. Pick up fluid and dispose of it according to regulations.

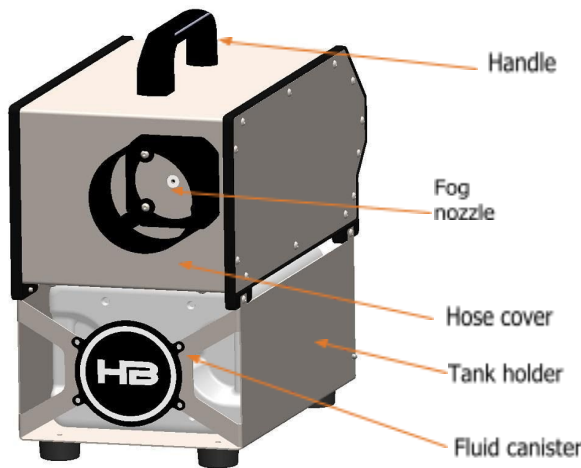
Do not allow visibility to fall below 2m, you are responsible for people moving around in the fogged room.

The mist produced can trigger smoke detectors.

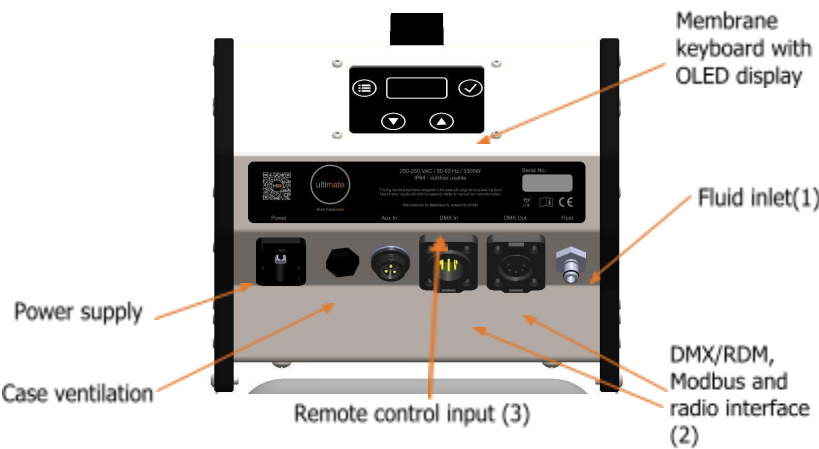
The method used here to produce artificial fog is largely harmless and is used worldwide in the entertainment sector. We are not aware of any case in which a healthy person would have been harmed by using this artificial fog. **Nevertheless, we recommend that sick persons or persons with previous respiratory tract damage or allergies avoid contact with artificial fog!**

3. Description of the parts

Front view



Rear view



## 4. Preparation

### 4.1 Selection of the location

The location where the **ultimate** must be operated

- have good ventilation
- be free of vibrations and shocks
- consist of a non-flammable floor space
- be far enough away from easily flammable objects
- have an ambient temperature between 5°C and 45°C

### 4.2 Changing the canister

1. Release the plug-in sleeve from the quick coupling by pressing the locking button
2. Remove the canister safety device by pressing the locking pins
3. Remove the canister from the tank holder
4. Unscrew the tank cap from the empty canister and screw it onto a new or full canister.
5. Slide the canister back into the tank holder.
6. Refasten the canister lock to the tank holder
7. Replace the connector sleeve in the fuel filler cap.

### 4.3 Hose cover

The **ultimate** is equipped with a hose cover (100mm). Please only use hoses that can cope with the temperatures. The hose may only be pushed onto the adapter a maximum of 50mm, so that the fog nozzle is surrounded by enough fresh and cold air.

## 5. Fog fluids

Two different fluids are available for the **ultimate** (see chapter 7.1)

base\*F is a very long lasting fluid

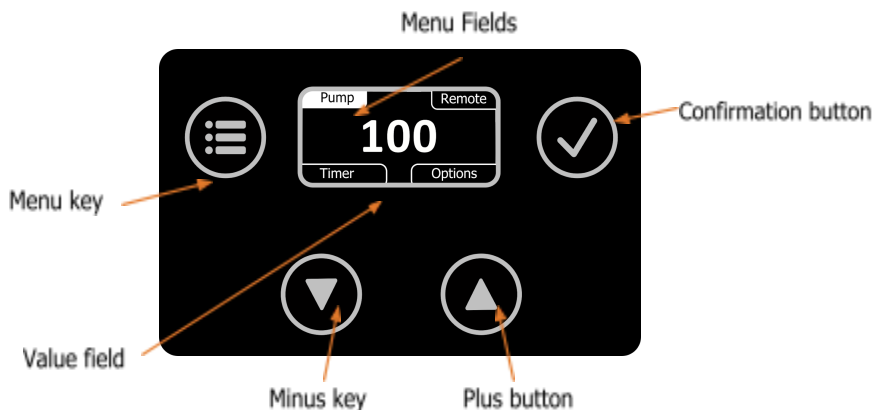
base\*R is a very fast dissolving fluid

**The type of fluid selected must be set on the unit, otherwise the fluid may not evaporate correctly.**

## 6. Working with the **ultimate**

The **ultimate** is a fog machine with a strong output. From small fog clouds to dense, room-filling fog, any desired effect can be achieved. The fine adjustment of the pump allows fog output settings between 1% and 100%.

### 6.1 Control panel of the **ultimate**



The **ultimate** is operated using the four keys (Menu, Minus, Plus, Confirm) and the OLED display. In the corners of the display are the menu fields, in the middle the value field, which shows the value of the selected menu field. The individual menus are selected by turning the menu key counter-clockwise. The corresponding value can then be changed with the plus and minus keys and then saved with the confirmation key.



## 6.2 Operating in stand-alone mode

The simplest case of control is the stand-alone mode. For this purpose, the pump value is set to the desired value and the confirmation key is pressed. The machine immediately starts to heat up the heating element and starts the fogging process.

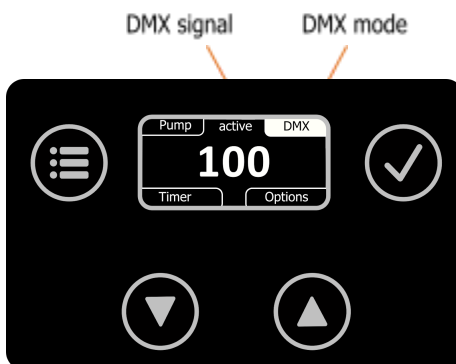
The pump value can also be changed during the fogging process.

Press the confirmation key again to stop the fogging process. A reheating process flushes out all fluid residues still in the heating element. The heating is then switched off again.

## 6.3 Operation via DMX512/RDM

When operating via DMX512, the XLR input (2) must first be set to DMX (see chapter Options).

As shown, "**DMX**" appears in the upper right-hand menu field. The DMX address can be changed with the plus and minus keys and must then be saved with the confirmation key.

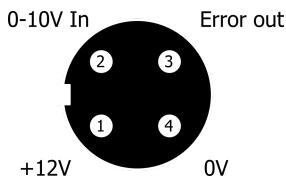


If a valid DMX signal is present, this is indicated by "**active**" in the top center. The currently read pump value can be displayed by selecting the pump menu item. If the value received is greater than zero, the **ultimate** starts the fogging process and stops it at zero again.

Via RDM the **ultimate** is both configurable (DMX address) and readable (error or temperature data). Furthermore, a firmware update can be carried out via this RDM input.

## 6.4 Operation via the AUX input

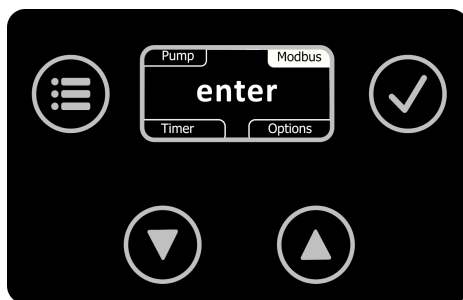
The **ultimate** has an aux-input (3), with which the machine can be controlled via 0-10V. The pin assignment of this input is shown on the right. Pin 1 and 4 are used to supply possibly connected consumers (12V, max. 100mA). A voltage between 1V and 10V can be applied to pin 2. From a voltage of 1V the fogging process starts. The pump value is adjusted according to the applied voltage. 10V at the input corresponds to the maximum set pump value. Below 1V the machine is switched off again.



Pin 3 is an output (24V, 50mA) that indicates whether the machine has a fault.

## 6.5 Operation via Modbus RTU

When operating via Modbus RTU, the XLR input (2) must first be set to Modbus (see chapter Options). The interface is designed as RS485 half-duplex connection.



The communication parameters of the connection can be set in the **"Modbus"** submenu. First the menu item Modbus must be selected. **"Enter"** is displayed in the value field. The sub-menu for Modbus is entered with the confirmation key.



In the Modbus submenu, the menu fields are replaced. The address of the unit can be set at the top left. The baud rate of the communication is set at the bottom left and the data width, parity and stop bits at the bottom right. The settings are made in the same way as in the main menu.

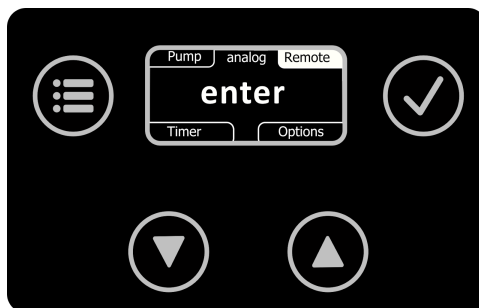
To exit the sub-menu, select the menu item **"exit"** and confirm with the confirmation key.

In the appendix you will find the definitions of the registers that are necessary for programming the PLC.

## 6.6 Operation via cable remote control (option)

When operating via cable remote control, the XLR input (2) must first be set to Remote (see chapter Options).

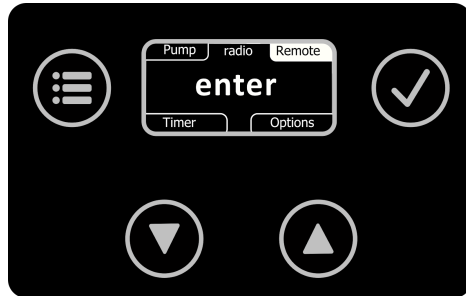
When the wired remote control is plugged in, the **ultimate** automatically recognizes that an analogue wired remote control has been plugged in. On the cable remote control there is a switch and a potentiometer for adjusting the pump value.



## 6.7 Operation via radio remote control (optional)

When operating via radio remote control, the XLR input (2) must first be set to Remote (see chapter Options).

When the radio remote control is plugged in, the **ultimate** automatically recognizes that a radio remote control has been plugged in.



Up to 60 different hand transmitters can be taught on the machine. To do this, the sub-menu **"Remote"** must first be selected.



In the Remote submenu, the menu fields are replaced. The channel (key on the handheld transmitter) can be selected in the top left-hand corner. A new remote control transmitter is tuned in at the bottom left and the tuned-in remote controls are deleted at the bottom right.

A new handheld transmitter is trained as follows. First select the menu item add and confirm it with the confirmation key. **"Adding"** now appears at the bottom left. The machine is now waiting for a valid radio signal. To do this, press any key on the hand-held transmitter. The teach-in process is now complete and **"add"** appears again at the bottom left. Afterwards you can still select the key and save it.

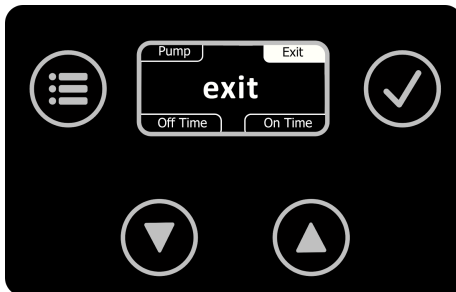
To delete the handheld transmitters which have already been tuned in, select the menu item **"del"** and confirm it. **"Deleting"** now appears in the bottom right-hand corner. The deletion process is now in progress. After the deletion process has been successfully completed, the display returns to **"del"**.

To exit the sub-menu, select the menu item **"exit"** and confirm with the confirmation key.

## 6.8 Operation using the internal timer

To set and activate the internal timer, you must first switch to the Timer sub-menu.

Here too, the menu fields are changed accordingly. In the upper left corner you can now set the pump value that is used in timer mode. At the bottom left the waiting time can be set in 0.1 minute (6 sec.) steps. Similarly, the fogging time can be set in steps of seconds at the bottom right.



To activate the timer, you can press the confirmation key during either the wait time or the fog time. This enables or disables the timer. Depending on the selected menu item, the timer starts with the waiting time or the fogging time.

The pump value can still be changed even when the timer is activated.

If you exit the **"Timer"** sub-menu, the timer is also deactivated again.

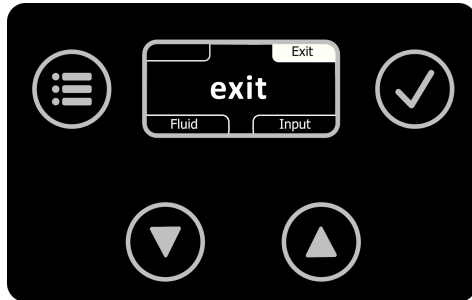
## 7. Menu options items

In the **"options"** sub-menu, you can set the type of fluid used and also select the protocol of the XLR sockets.

### 7.1 Setting the fluid used

After activating the submenus, the menu fields in the corners are changed. The menu item **"Fluid"** now appears at the bottom left and the menu item **"Input"** at the bottom right.

In the menu item **"Fluid"** you can choose between the fluid type base\*F and base\*R. Set the desired fluid type and confirm this with the confirmation key.



**ATTENTION ! The fluid types have different boiling points, so that a wrong setting can lead to spitting of hot fluid drops or to unpleasant odors when nebulizing. Therefore, always set the type of fluid used.**

### 7.2 Setting the communication protocol of the XLR sockets

In the menu item **"Input"**, you can select the communication protocol of the XLR sockets. The following protocols can be selected here:

DMX/RDM

Modbus

Remote (cable or radio)

Please select the desired protocol and confirm it with the confirmation key.

## 8. Care and maintenance

- Avoid running the **ultimate** without fluid. Otherwise, the pump will run dry.
- Avoid overheating the unit due to direct sunlight or direct spotlight. The permissible ambient temperature can be found in the technical data.
- Immediately wipe up any escaped fluid.
- Check the suction strainer in the tank from time to time. Clean it or replace it.
- If the same fluid canister is used frequently, you should rinse it thoroughly before each filling with fresh fluid. In this way you avoid contamination.
- The tank holder can be unscrewed for permanent installation. **Please note:** The difference in height between the external canister and the machine must not exceed 1.5 meters, otherwise the pump will not be able to suck in the fluid).
- If necessary, clean the surface of the device with a suitable, solvent-free cleaning agent
- Check the seals on the machine from time to time. Defective seals or housing parts can result in the machine no longer having moisture protection (IP64).
- **PLEASE NOTE:** The vaporizer of our foggers does NOT need to be cleaned! Cleaning liquids that are available on the market can damage the vaporizer! In this case the guarantee becomes void.

## 9. Troubleshooting

### The **ultimate** does not fog

- Check external control
- Check power source
- Check fluid quantity
- Check the connection on the fluid tank for leaks
- Check suction strainer in the tank for contamination
- Check fluid hose and connector for leaks

### The **ultimate** suddenly switches off

The temperature inside the appliance is too warm. Remove the external heat source. The unit switches on again after it has cooled down.

### The **ultimate** hums loudly when fogging

- The pump runs dry. This must be avoided at all costs.
- Refill fluid
- Check hose and coupling, if necessary re-engage.

### The **ultimate** shows the error message "machine too hot" in the display

The temperature inside the unit is too high. After cooling down, the error disappears again.

### The **ultimate** shows the error message "vaporizer faulty" in the display

The vaporizer module has an error or no longer responds. In this case the unit must be sent for service.



## 10. Technical data

<b>Device type</b>	Directly heated evaporator fog machine
<b>Performance</b>	200-250V~   50-60 Hz   3300 W (PowerCON TRUE1)
<b>Heating time</b>	approx. 2 seconds
<b>Fluid consumption</b>	up to 90ml/min
<b>Tank capacity</b>	5 liters
<b>Operation</b>	1.3" OLED display, membrane keyboard
<b>Interfaces</b>	5pin XLR In/Out, Aux-In (Analog 0-10V)
<b>Supported Protocols</b>	DMX512, RDM, Modbus RTU direct SPS control
<b>Control</b>	DMX, analogue, integrated timer, stand alone
<b>Accessories (option)</b>	Radio remote control, cable remote control
<b>Protection class</b>	IP64
<b>Fluid types</b>	base*F (long lasting) base*R (fast resolution)
<b>Dimensions (LxWxH)</b>	487 x 210 x 235 mm (height with tank holder 388mm)
<b>Weight</b>	12,5 kg
<b>Ambient temperature</b>	+5°C to 45°C

## 10. Technical data

<b>Device type</b>	Directly heated evaporator fog machine
<b>Performance</b>	90-264 VAC   50-60 Hz   1800W (PowerCON TRUE1)
<b>Heating time</b>	approx. 2 seconds
<b>Fluid consumption</b>	up to 45ml/min
<b>Tank capacity</b>	5 liters
<b>Operation</b>	1.3" OLED display, membrane keyboard
<b>Interfaces</b>	5pin XLR In/Out, Aux-In (Analog 0-10V)
<b>Supported Protocols</b>	DMX512, RDM, Modbus RTU direct SPS control
<b>Control</b>	DMX, analogue, integrated timer, stand alone
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<b>Dimensions (LxWxH)</b>	487 x 210 x 235 mm (height with tank holder 388mm)
<b>Weight</b>	12,5 kg
<b>Ambient temperature</b>	+5°C to 45°C

## 11. Guarantee conditions

For the purchased fog machine **ultimate** hazebase provides a guarantee according to the following conditions:

1. We will remedy free of charge in accordance with the following conditions (nos. 2 to 6) any damage or defects in the device which are demonstrably based on factory defects if they are reported to us immediately upon discovery and within 24 months of delivery to the end user. A guarantee obligation is not triggered by minor deviations from the nominal quality, which are insignificant for the value and usability of the device, by damage from the effect of water and generally from abnormal environmental conditions or force majeure.
2. The guarantee is provided in such a way that defective parts are repaired free of charge or replaced by faultless parts at our discretion. Devices for which a warranty service is claimed with reference to this warranty are to be handed over to us and sent free of charge.  
The proof of purchase with purchase and/or delivery date must be presented. Replaced parts become our property.
3. The warranty claim expires if repairs or interventions are carried out by persons who are not authorized by us to do so or if our devices are fitted with supplementary or accessory parts which are not matched to our devices. Furthermore, the warranty claim expires if a fog fluid other than the original hazebase fog fluid is used. If the units are sent to us without prior removal or emptying of the fluid canister, the warranty will also expire, as well as in the case of proven disregard of the operating instructions or errors due to improper treatment/handling as well as damage due to the use of force.
4. We do not grant any performance claims for components or component groups that are subject to natural wear and tear or normal wear and tear. In particular, all fluid-conveying parts such as pumps and heating elements are deemed to be wearing parts. A goodwill regulation will be checked in each individual case.
5. Warranty services do not extend the warranty period, nor do they initiate a new warranty period. The warranty period for installed spare parts ends with the warranty period for the entire device.

6. If a damage or defect cannot be remedied by us, or if we refuse or unreasonably delay the remedy, we will, at the request of the end user, within 6 months of the purchase/delivery date either
  - a. replacement delivered free of charge or
  - b. the reduced value is reimbursed or
  - c. take back the equipment against reimbursement of the purchase price, but not exceeding the usual market price.
7. Any further or other claims, in particular those for compensation for damages incurred outside the device, are excluded - unless liability is mandatory by law.

Modbus Definitionen

Discrete Inputs

Number	Name	Description
1	Ready	This input is 1 if the machine is ready to produce fog. If an error occurs the Input will be zero.
2	Vaporizer fault	This input will be 1 if there is an error in the vaporizer modul otherwise it will be zero.
3	Overttemperature	This input will be 1 if the envionement temperature is higher than 70°C. Otherwise it will be zero.

Coils

Number	Name	Description
1	Enable	This coil enables the fog output with the amount of fog wich is set in holding register 1

Input Registers

Number	Name	Description																																
1	Status	<p>This register is the status register. It is used to inform the application about the state of the machine.</p> <p><i>Note: The bits contained in this register are the same as the discrete inputs.</i></p> <table border="1"><tr><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>OVRT</td><td>VERR</td><td>RDY</td></tr></table> <p><b>Bits 16:4 not used</b> These bits are not used and read as zero</p> <p><b>Bit 3 OVRT</b> Overtemperature flag This bit is set by the machine if a temperature over 70°C is detected 0: Environment Temperature In range 1: Temperature to high</p> <p><b>Bit 2 VERR</b> Vaporizer Error flag 0: No Error detected 1: An error condition in the Vaporizer is detected.</p> <p><b>Bit 1 RDY</b> Ready flag 0: Machine not ready due to an error 1: Machine ready to produce fog</p>	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	OVRT	VERR	RDY
		16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																	
		-	-	-	-	-	-	-	-	-	-	-	-	-	OVRT	VERR	RDY																	
		2	Temperature	This register hold the environment temperature. It is a signed 16-bit number																														

Holding Register

Number	Name	Description
1	Fog	The fog output value: allowed values are from 0 to 255

A

Annex





hazebaseStargarder  
Strasse 230900 Wedemark

Germany

Owner: Uta Raabe  
Phone: 0049-5130-37 10 05 Fax:  
0049-5130-37 10 06 Email: Internet: