SMOKE FACTORY

FOG AND HAZE GENERATORS

Fog Blaster

Manual

Hardware Version 1

Stand: 13. Mai 2024

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1. Preambel

All Smoke Factory fog machines are quality products at the cutting edge of technology. Our many years of experience, the continuous development and optimization of our products, especially from a practical point of view, have made us one of the leading manufacturers of fog machines in the field of stage technology. The very close interlocking of development, production and assembly work in our factory near Hanover are the guarantee for the quality seal "Made in Germany".

Congratulations on your purchase of a Smoke Factory fog machine. We thank you for your trust with the certainty that you will work safely and comfortably with this device in the future. Our Smoke Factory employees are qualified professionals with years of experience who understand your task and turn it into precisely tailored solutions with the concentrated know-how of the entire Smoke Factory team. Give us your task! We will be happy to advise you and will certainly find the optimal solution for you from our fog machine program. Please take your time to read these operating instructions carefully in order to operate the machine in the best possible way. Please pay particular attention to the safety-relevant aspects and always act responsibly. We wish you a lot of fun with the Smoke Factory fog machine.

-Mario Rincon, General Manager

2. Scope of delivery

- 1 Fog Blaster fog machine
- 1 PowerCon True1 2.5 m mains cable
- 1 instruction manual

3. General notes

This document contains the operating instructions for the "Fog Blaster" machine, hereinafter referred to as the "machine". If there are any differences between the variants,

they will be mentioned separately.

Elements mentioned in the text, which are visible on the user interface of the machine, are shown as ***italic, bold font***.

4. Safety instructions

- **Caution, hot vapour!**
- Keep a safe distance of at least 1.50 m from the mist outlet for people and heat-sensitive objects.
- It is strictly forbidden to handle the mist outlet during operation! A minimum distance of 60 cm must be maintained with flammable materials.
- During operation of a fog machine, hot fluid droplets may occasionally escape. Do not allow these to become a danger to people.
- Sick persons or persons with pre-existing respiratory or pulmonary problems or a tendency to allergies should avoid contact with theatre fog!
- The user bears sole responsibility for damage resulting from improper use or non-compliance with the operating instructions. The manufacturer accepts no liability. Modifications to the safety-relevant components of the appliance are strictly prohibited!

Caution!

- Never leave switched-on devices unattended!
- Never fog into ignition sources such as naked flames or pyrotechnic effects!
- Never allow visibility to fall below 2 metres! You are responsible for the risk of accidents to persons in the fogged room.
- Never open an appliance that is connected to the mains!
- Do not ingest or apply fog fluids externally!
- Keep away from children!

In case of eye contact, rinse eyes with plenty of water. In case of accidental ingestion, consult a doctor immediately. Spilt fluid or splashed fluid droplets can cause slipping. Pick up the fluid and dispose of it properly!

Smoke Factory fog fluids are completely water-soluble and biodegradable. The method used by Smoke Factory to produce fog with vaporiser fog machines is the most safe. We are not aware of any case in which a normally healthy person has been harmed in any way by this artificial fog. The prerequisite is the use of professional fog machines with the correct vaporisation temperatures and the appropriate fog fluids.

5. Technical data

5.1. Dimensions and Weight

- Length: 45 cm
- Width: 38,3 cm
- Height: 28,5 cm
- Weight with empty tank: 26 kg
- Weight with full tank: 28 kg

5.2. Electric

- Operating voltage: 220 - 250 V
- Mains frequency: 50/60 Hz
- Power: max 3200 W

5.3. Connections

5.3.1. Power supply

- PowerCon True1 input

5.3.2. Communication

- DMX512 Input: 5-Pol XLR male
- DMX512 Output: 5-Pol XLR female
- Digital Aux-Port: 4-Pol XLR female
- Ethernet: EtherCon (RJ45)

5.3.3. Fluid

- Integrated tank, filling via tank opening on the top side
- Quick coupling to connect an external fluid pump with tank (sold separately)

6. Commissioning

Warning

After transporting the machine, heat it up completely before installing it overhead! Hot fluid can escape from the nozzle during transport!

- Fill the integrated tank with a fluid suitable for the machine.

Note

Use only original fluid! We recommend the Fast Fog EXTRA III
After filling, make sure that the filler cap is screwed on tightly!
Fill the machine only with the mains plug pulled out!

- If desired, connect cables for external control such as DMX or Ethernet.

Note

Use only suitable cables for connection!
DMX cables must be suitable and shielded for digital data transmission!
Ethernet cables must be at least category 5e and shielded!

- Connect the enclosed power cord to the machine by inserting the plug into the connector and turning it until it audibly engages. Insert the power plug into a grounded socket. The machine automatically starts the heating process.

Warning

Use only the enclosed power cable or another cable approved by Smoke Factory!
Connect the machine only to grounded sockets!

- The machine performs an initialization and requires approximately 10 minutes to heat up completely.
- The machine is now ready for operation.

7. Shutdown

- Perform one of the following procedures before each shutdown:
  - Use the ***Shutdown*** item in the Settings.

  - Put the fixture into standby mode, either by removing the DMX or Ethernet signal, via the Control DMX channel, or via the Settings menu.

- The pressure in the accumulator is released into the tank.
- Unplug the power cord from the outlet and/or remove the PowerCon True1 plug from the outlet.

8. Operation of the machine

8.1. Main Menu

After switching on the machine, the main menu is displayed.

(a) Fog Blaster in the heating process

(b) Fog Blaster ready for operation

Abbildung 1: Main Menu

The main menu is divided into several sections, each of which contains specific information or settings:

- Top left: ***Source***: Displays the currently active source. Tapping leads to the menu ***Select source***. The use of sources is described in Abschnitt 9
- Top right: Current source information: Displays information about the current source. Tapping leads to the settings menu of the active source. If the center is highlighted, a valid signal is being received from the source. The information displayed is described for the individual sources.

- Center: Status displays: Displays information about the machine. ***Preheat*** indicates how far the machine has heated up to the point where it is ready for operation. ***Energy*** indicates how much energy is available in the heating element for vaporization. ***Pressure*** indicates the set pressure and whether the pressure is changed. ***Tank fill*** indicates the fill level of the integrated tank.
- Bottom: Settings and manual operation: Tapping ***Settings*** leads to the settings menu. Tapping ***Jet control*** leads into the menu for manual operation, see Abschnitt 9.1.

8.2. Status bar

Abbildung 2: Status bar with all icons

The status bar is always at the top of the display and shows the most important information. These are from left to right:

- Heating condition (): Indicates with blue symbol the Preheat state or with red symbol the Energy state.
- Flush active (): Indicates whether the pressure system is currently being flushed. Is executed every time the machine is started or can be set manually via the Flush setting. (Abschnitt 10.2)
- Jet time (): Displays the preset fixed time for the jet shot. If no symbol and time is displayed, the setting is set to off.
- Symbol DMX (): Indicates if a DMX signal is received
- Symbol Art-Net (): Indicates if a Art-Net data is received
- Symbol sACN (): Indicates if a sACN data is received

- Symbol Ethernet (⇿): Displays the status of Ethernet. Icon without IP address: Connected, but no IP address available. Icon and IP address: Connected and valid IP address available. Red: Connected, but no IP address obtained via DHCP.

8.3. Standby display

When the signal from the active source is lost, the machine is put into standby. In this case, the pump and the heating element are switched off and the display goes into the screen saver.

Before entering the standby, the display shows a notice with a countdown of 10 seconds.

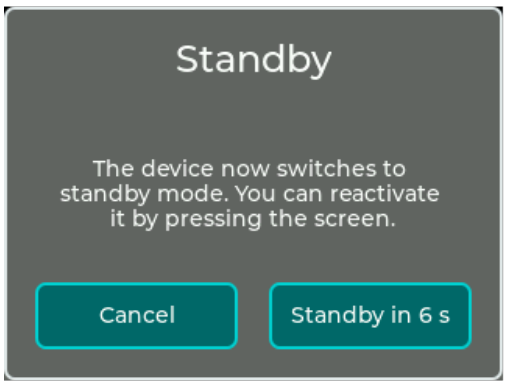


Abbildung 3: Standby display

Standby can also be entered via the settings menu.

To exit the standby, you can

- touch the display
- reconnect the current source

If the DMX Personality is set to 4-channel mode, the standby can be entered and exited via channel 4, see also Abschnitt 11.

8.4. Tank empty display

The integrated tank has level sensors. If the tank is empty, a warning is displayed and the integrated pressure system is switched off. If you fill the tank, the pressure system is switched on again and the warning disappears.

Note

Use only original fluid!
After filling, make sure that the tank cap is screwed on tightly!
Fill the machine only with the mains plug pulled out!

Abbildung 4: Tank empty display

9. Working with sources

The machine has a source system, which is based on the source selection of a TV, for example.

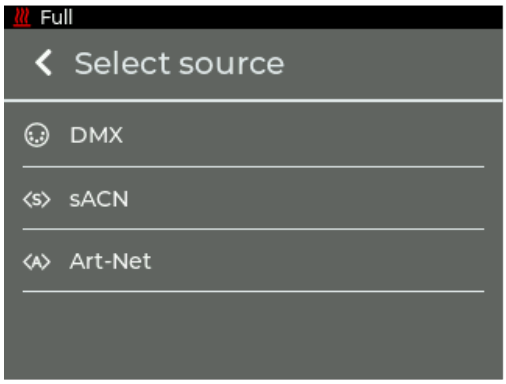


Abbildung 5: Menu source selection

In general, a set source is used until it is changed on the machine. However, there is an exception to this rule:

1. operation manually via the display
    a) Manual operation is only possible if the selected source is not active. If it becomes active, manual operation is automatically terminated.

9.1. Manual operation

By tapping ***Jet control*** in the main menu, you can switch to manual operation. The menu can also be opened when the source is active.

(a) Jet Control

Abbildung 6: Manual operation

9.1.1. Pressure

In the upper section the pressure (***Pressure***) for the jet can be set in 4 steps:

1. ***Low***: smallest level
2. ***Medium***: medium level
3. ***High***: high level
4. ***Max***: highest level

By adjusting the pressure, it changes the height of the fog column and the amount of fog.

If the machine is in 1-channel DMX Personality, this setting is also used in DMX mode, see Abschnitt 10.1.

9.1.2. Jet time

In the center section, the preset time for the jet shot (**Shot time**) can be set. This allows an identical time to be set for several devices in order to better synchronize short shots. The time can be set from 100 milliseconds to 2 seconds. If the time is set to ***off***, the duration depends on how long the first DMX channel is set to Jet, seeAbschnitt 11.

If the machine is in 1- or 2-channel Personality, this setting is also used in DMX mode, see Abschnitt 10.1.

9.1.3. Test Control

The ***Test Control*** button can be used to manually test the settings directly on the machine. The button is deactivated when the current source is active or the machine has not finished heating up.

9.2. DMX

The source setting ***DMX*** is the default of the machine. The main menu displays the current DMX address and the status of the DMX connection.

Abbildung 7: Main menu with DMX

By tapping the ***DMX*** button or by ***Source -> DMX*** you can switch to the DMX settings menu. Here the DMX address can be set.

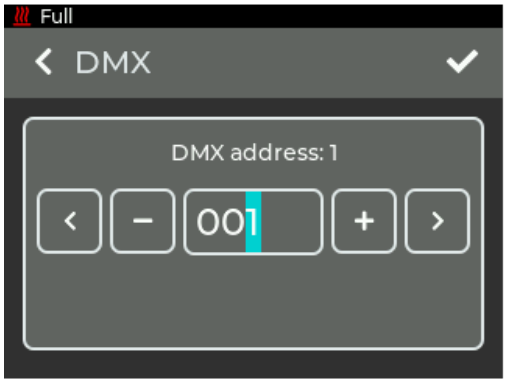


Abbildung 8: Setting DMX

By pressing **+** and **-** the number at the flashing cursor can be increased or decreased. By pressing ***< and >*** or directly tapping a digit, the cursor can be moved.

Pressing **<** in the upper left corner will return to the previous screen without saving the changes. Press ✓ to save the settings and return to the main menu. DMX is now selected as the source. The machine occupies between one and four DMX channels. The channel assignment can be changed via the ***Personality*** setting, see Abschnitt 10.1.

The machine supports RDM in DMX mode. See Abschnitt 9.5.

9.3. sACN

The ***sACN*** source setting can be used to control the machine via the sACN protocol by network. The main menu displays the current sACN universe, the start address and the status of the connection.

Abbildung 9: Main menu with sACN

By tapping the sACN button or by ***Source -> sACN*** it is possible to switch to the sACN settings menu. Here the universe and the address can be configured.

Abbildung 10: Setting sACN

By pressing **+** and **-** the number at the flashing cursor can be increased or decreased. By pressing ***< and >*** or directly tapping a digit, the cursor can be moved.

In the upper row the sACN universe is set. The value can be between 1 and 63999.

In the lower row the DMX address of the machine in the selected universe is set. The value can be between 1 and 512.

Pressing **<** in the upper left corner will return to the previous screen without saving the changes. Pressing ✓ will save the settings and return to the main menu. sACN is now selected as the source.

To receive sACN data, the machine must be connected to a network and have a valid IP address. The settings for this are described in Abschnitt 10.3.

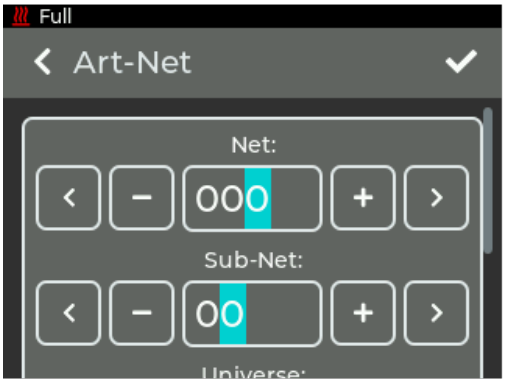
The machine occupies between one and four DMX channels. The channel assignment can be changed via the ***Personality*** setting, see Abschnitt 10.1.

9.4. Art-Net

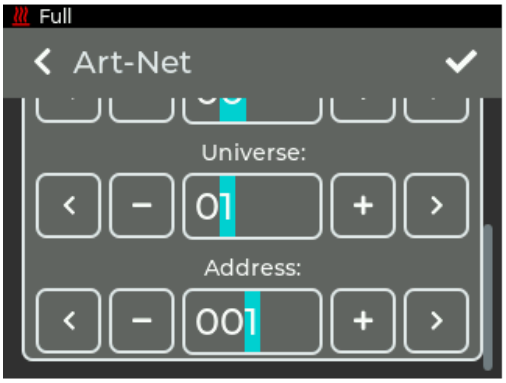
The ***Art-Net*** source setting allows the machine to be controlled via the Art-Net protocol by network. The main menu displays the current Art-Net configuration and the status of the connection.

Abbildung 11: Main menu with Art-Net

By tapping the ***Art-Net*** button or by ***Source -> Art-Net*** you can switch to the Art-Net settings menu. Here the Net, Sub-Net, Universe and the Address can be configured.



(a) Fog Blaster top section



(b) Fog Blaster bottom section

Abbildung 12: Setting Art-Net

By pressing **+** and **-** the number at the flashing cursor can be increased or decreased. By pressing **<** and **>** or directly tapping a digit, the cursor can be moved.

In the upper row the Art-Net Net is set. The value can be between 0 and 127.

In the next row the Art-Net Sub-Net is set. The value can be between 0 and 15.

In the next row the Art-Net Universe is set. The value can be between 0 and 15.

In the lower row the DMX address of the machine in the selected universe is set. The value can be between 1 and 512.

Pressing **<** in the upper left corner will return to the previous screen without saving the changes. Pressing ✓ will save the settings and return to the main menu. Art-Net is now selected as the source.

To receive Art-Net data, the machine must be connected to a network and have a valid IP address. The settings for this are described in Abschnitt 10.3.

The machine occupies between one and four DMX channels. The channel assignment can be changed via the ***Personality*** setting, see Abschnitt 10.1.

The machine supports RDM in Art-Net mode. See Abschnitt 9.5.

9.5. RDM

When used with DMX and Art-Net, the machine supports the RDM protocol. Properties can be read and changed via RDM. The following parameters are supported:

Tabelle 1: Unterstützte RDM-Parameter

Parameter	Disc	GET	SET
DISC_UNIQUE_BRANCH	✓		
DISC_MUTE	✓		
DISC_UN_MUTE	✓		
QUEUED_MESSAGE		✓	
STATUS_MESSAGES		✓	
SUPPORTED_PARAMETERS		✓	
DEVICE_INFO		✓	
DEVICE_MODEL_DESCRIPTION		✓	
MANUFACTURER_LABEL		✓	
DEVICE_LABEL		✓	✓
SOFTWARE_VERSION_LABEL		✓	
DMX_PERSONALITY[1]		✓	✓
DMX_PERSONALITY_DESCRIPTION		✓	
DMX_START_ADDRESS		✓	✓
SLOT_INFO		✓	
SLOT_DESCRIPTION		✓	
DEFAULT_SLOT_VALUE		✓	
SENSOR_DEFINITION		✓	
SENSOR_VALUE		✓	✓
DEVICE_HOURS		✓	
DISPLAY_LEVEL		✓	✓
DISPLAY_INVERT		✓	✓
IDENTIFY_DEVICE		✓	✓
RESET_DEVICE			✓

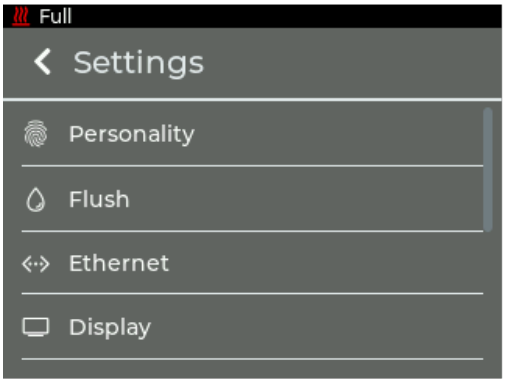
[1] DMX Personalities werden in Abschnitt 10.1 beschrieben

Sensors

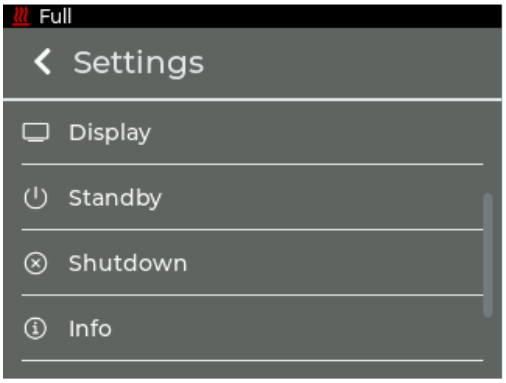
The machine has the following sensors that can be read out via RDM:

- **Preheat %**: Reflects the value from the main menu and status bar. Indicates the percentage until the machine is ready for operation.
- **Energy %**: Reflects the value from the main menu and the status bar. Indicates how much energy is available to the heating block for evaporation. Can only take the values 0, 33, 66 and 100.
- **Heater Temperature**: Heater Temperature: Indicates the temperature of the heating element in °C. Can also be taken from the display under ***Settings -> Info -> Additional information***, see Abschnitt 10.7.
- **Pressure %**: Reflects the display from the main menu. Indicates the pressure in the tank relative to the target pressure.
- **Tank level**: Reflects the display from the main menu. Indicates the level of the integrated tank.
- **Jet time**: Reflects the value from the status bar. Indicates the set jet time.

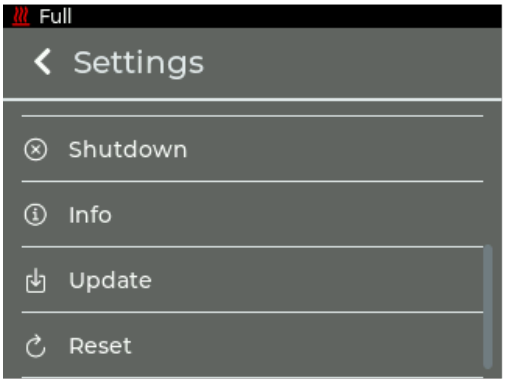
10. Settings



(a) Fog Blaster top section



(b) Fog Blaster middle section



(c) Fog Blaster bottom section

Abbildung 13: Setting menu

By tapping the ***Settings*** button in the main menu, you can switch to the settings menu. All general settings can be adjusted here. To return to the main menu, **<** must be pressed in the upper left corner.

10.1. Personality

In the menu ***Personality*** the number of occupied DMX channels can be adjusted. This setting can also be made via RDM, see Abschnitt 9.5. The DMX channel assignment is shown inAbschnitt 11.

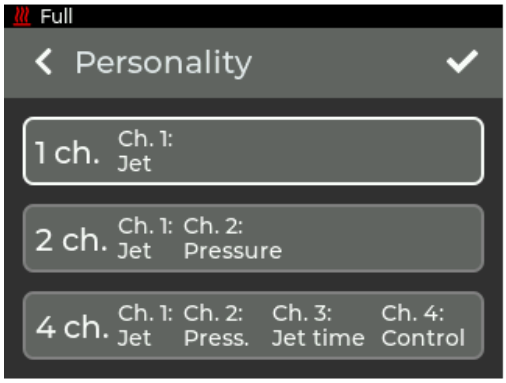


Abbildung 14: Setting ***Personality***

The following settings are possible:

- ***1 ch.***:
  - Channel 1: Jet: Channel for starting the jet. If the value is above 50%, the jet starts with the selected settings from the manual settings, seeAbschnitt 9.1.
- ***2 ch.***:
  - Channel 1: Jet: Channel for starting the jet.
  - Channel 2: Pressure: Sets the pressure and thus the height of the jet. Overwrites the setting from the manual settings, see Abschnitt 9.1.
- ***4 ch.***:
  - Channel 1: Jet: Channel for starting the jet.
  - Channel 2: Pressure: Sets the pressure and thus the height of the jet.
  - Channel 3: Jet time: Sets the duration of the jet. Overwrites the setting from the manual settings, see Abschnitt 9.1.

– Channel 4: Control: Can put the machine in standby or reactivate it via DMX.

Pressing < in the upper left corner returns to the previous screen without saving the changes. Pressing ✓ saves the settings.

10.2. Flush

In the ***Flush*** menu, the pressure system in the machine can be automatically drained to remove air bubbles from the system. This process is carried out every time the machine is started. If problems still occur, the process can be restarted via this menu.

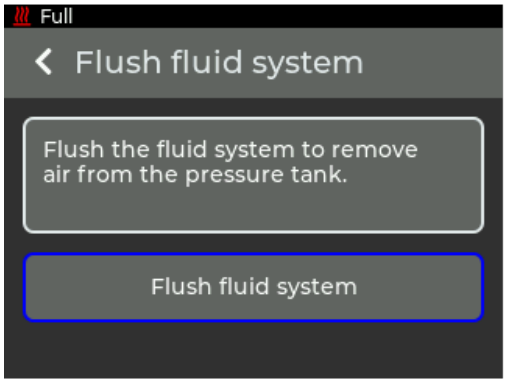


Abbildung 15: Setting ***Flush***

10.3. Ethernet

In the ***Ethernet*** menu, settings for the network connection such as DHCP or a static IP address can be configured.

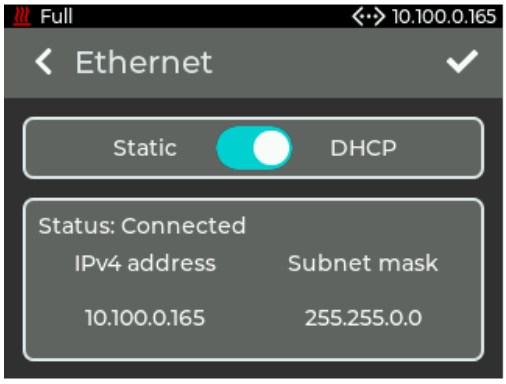


Abbildung 16: Setting ***Ethernet***

The upper switch can be used to set whether an IP address is to be obtained via DHCP or whether a static IP address is to be configured.

If ***DHCP*** is selected as the setting, the IP address and subnet mask assigned by the DHCP server in the network are displayed below.

If ***Static*** is selected as the setting, buttons for entering the IP address and subnet mask are displayed below.

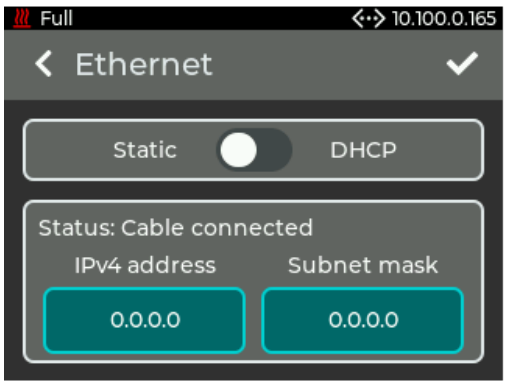


Abbildung 17: Setting ***Static***

If the buttons are tapped, a keyboard for entering the IP address or subnet mask is displayed.

Abbildung 18: Setting a manual address

Pressing **<** in the upper left corner returns to the previous screen without saving the changes. Pressing ✓ saves the settings. If a non-valid address is entered, the previous address is retained!

If no server in the network responds when ***DHCP*** is set, a random IP address is selected after approx. 15 seconds according to the Auto IP protocol. It is still tried to get an address from a DHCP server.

10.4. Display

In the ***Display*** menu, settings for the display such as the brightness and the screen saver can be configured.

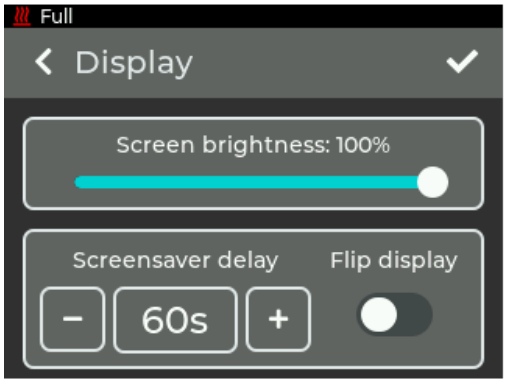


Abbildung 19: Setting ***Display***

In the upper area, the brightness of the display can be set in 10% steps between 10% and 100%.

The time after which the screen saver is activated can be set in the upper area. A time from 20 to 120 s in 10 s steps is possible. The screen saver is the logo that jumps around randomly.

Abbildung 20: Screensaver

Below this you can set whether the display should rotate.

Pressing **<** in the upper left corner returns to the previous screen without saving the changes. With ✓ the settings are saved.

10.5. Standby

By tapping Standby, the standby display is shown directly, see Abschnitt 8.3.

10.6. Shutdown

In the ***Shutdown*** menu, the machine can be prepared for shutdown.

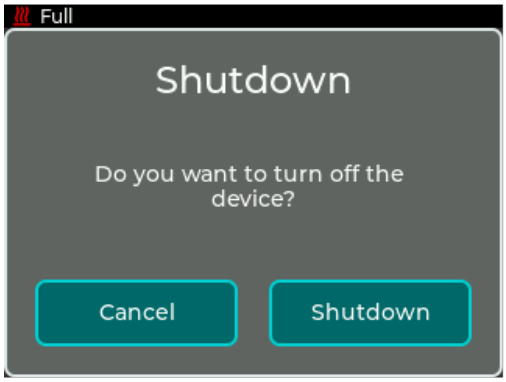


Abbildung 21: Setting ***Shutdown***

The pressure from the pressure system is released into the internal tank. This procedure should always be performed before transport! Alternatively, the pressure can be released via the standby.

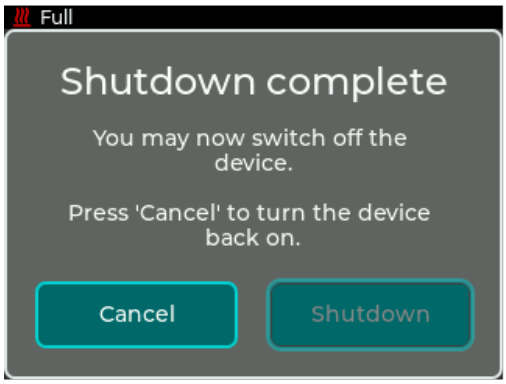


Abbildung 22: ***Shutdown*** complete

10.7. Info

The ***Info*** menu displays information about the machine. This includes the model, the software version and the MAC address and RDM ID.

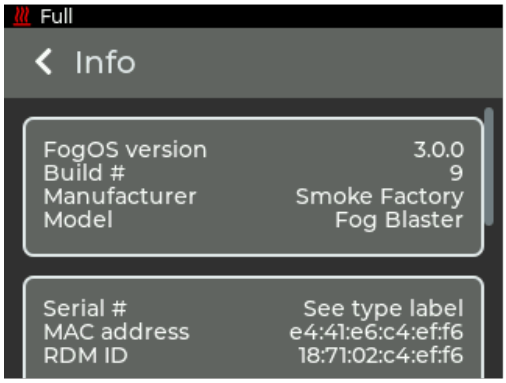


Abbildung 23: Menu ***Info***

Additional information such as the hour counter and temperatures can be found under Additional information at the bottom of the menu.

License information can be found under License information.

10.8. Update

The current update code for the machine is displayed in the ***Update*** menu. With this the update process can be started, see Abschnitt 13.

(a) Fog Blaster

Abbildung 24: Menü ***Update***

10.9. Reset

In the ***Reset*** menu, the machine can be restored to the factory settings.

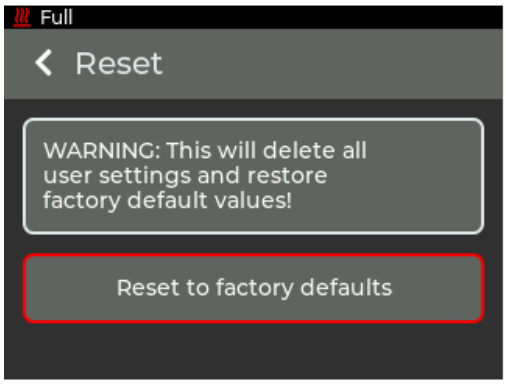


Abbildung 25: Menu ***Reset***

After pressing ***Reset to factory defaults*** the machine is restarted and the factory settings are loaded.

The following settings cannot be reset:

- Operating hours counter

11. DMX channel assignment

The channel assignment depends on the set Personality, see Abschnitt 10.1.

Tabelle 2: DMX channel assignment

Mode			DMX Value	Function	Type of control
1	2	3			
1	1	1		**Jet**	
			0-127	Off	step
			128-255	Jet output active	step
				Jet output time varies with channel 3 or the manual setting on the device	
*	2	2		**Pressure**	
			0 - 64	Low	step
			65 - 129	Medium	step
			130 - 194	High	step
			195 - 255	Max	step
				Jet time	
*	*	3	0 - 49	Jet time off, output active until channel 1 is lower than 128 or heater is too cold	step
			50 - 255	Jet time setting, linear from 100 ms to 2 s	linear
*	*	4		**Control**	
			0 - 25	Reserved	
				To activate the following functions, stop at DMX value for at least 5s and fog output must be 0 for at least 1s	
			26 - 100	Activate standby	step
			101 - 255	Deactivate standby	step

12. Error messages

If an error is shown on the display, the machine must be restarted in order to continue using it after the error has been corrected. The machine can report the following errors:

12.1. E-1

The temperature sensor in the heating element is broken.

Abbildung 26: Error E-1

12.2. E-4

PCB temperature to high.

Abbildung 27: Error E-4

Note

This error can also occur in case of a loose contact at one of the temperature sensors!

12.3. E-20

Communication with the Power PCB has failed.

Abbildung 28: Error E-20

12.4. E-30

The temperature sensor on the pump is defective.

Abbildung 29: Error E-30

12.5. E-31

The temperature sensor on the tank is defective.

Abbildung 30: Error E-31

12.6. E-32

The temperature of the pumps is too hot.

Abbildung 31: Error E-32

12.7. E-33

The temperature of the tank is too hot.

Abbildung 32: Error E-33

13. Update

The ***FogOS Updater*** is required to update the machine. The software runs on computers with Windows or MacOS. The computer and the machine must be connected to the same network and the computer must have an active internet connection.

Note

If the computer has a wireless Internet connection, the machine can also be connected directly to the computer with a network cable. The operating system must support Auto IP for this (standard for modern operating systems)!

The machine displays an update code under Settings -> Update, see Abschnitt 10.8. This is entered in the FogOS Updater. If the machine is found in the network and an update is available, the machine is put into update mode.

Abbildung 33: Update Modus

The update is automatically uploaded and installed. Afterwards, the machine restarts.

Note

If no software for operation is found on the machine, the update mode is entered automatically.

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B. Changes to this document

Tabelle 3: Changes to this document

Date	Changes	Editor
07.09.2023	First publication	BST
13.05.2024	Safety instructions added	BST
13.05.2024	Warning, heat up before overhead operation added.	BST
13.05.2024	Internet use - removed	BST