

ENGLISH

MAG:CFX®

USER AND INSTALLATION MANUAL

FLAMEBLAZER® STANDALONE



CE FLAME FX

PART01875 rev 01-08

DISCLAIMER

⚠ WARNING

Read this manual carefully before installing and/or using this product. Failure to read the manual and to follow the printed instructions may lead to personal injury and/or damage to the product.

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We further refer to the General Conditions. These are available on request, free of charge.

Although considerable care has been taken to ensure a correct and comprehensive description of all relevant components, the manual may nonetheless contain errors and inaccuracies.

Should you detect any errors or inaccuracies in the manual, we would be grateful if you would inform us. This helps us to further improve our documentation.

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INTRODUCTION

Congratulations! You have bought a great new product from MAGIC FX.

This manual contains all information required for the intended use of the equipment. Deviation from the described intended use can result in a hazardous situation and/or property damage.

This manual includes notes and warnings on safe operation of the equipment. These notes and warnings are accompanied by the following icons. Read them attentively!

 DANGER	Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.
 WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

TARGET GROUP

This manual is targeted at authorised personnel in the event industry that install and operate the FLAMEBLAZER® SA and the required ARM SYSTEM.

Authorised personnel are those who:

- Are appointed by their supervisor to install and/or operate the FLAMEBLAZER® SA and the related ARM SYSTEM at the event.
- Are trained in recognizing and avoiding hazards related to SFX applications at events.
- Are familiar with the safety instructions of each involved ARM SYSTEM component.
- Are familiar with and abide by the applicable local, national and international laws and regulations.

LANGUAGE

This document contains the original instructions in English. In case you require other languages please contact MAGIC FX.

ABBREVIATIONS

Abbreviation	Description
SFX	Special effects
DMX	Digital Multiplex
RDM	Remote Device Management
ARM SYSTEM	MAGICFX® SFX SAFETY ARM SYSTEM
ARM CONTROLLER	MAGICFX® SFX SAFETY ARM CONTROLLER
E-STOP	MAGICFX® SFX SAFETY E-STOP
TERMINATOR	MAGICFX® SFX SAFETY TERMINATOR
FLAMEBLAZER® SA	MAGICFX® FLAMEBLAZER® STANDALONE

Abbreviations

REVISION TABLE

Doc nr	Revision	Date	Description	Author	Approved
PART01875	01-00	03-06-2020	Initial release	MB, ES	RD
PART01875	01-01	27-10-2020	Updated graphics	PW	LL
PART01875	01-02	10-11-2022	Updated ARM SYSTEM	TF	PvdW
PART01875	01-03	05-12-2022	Updated emergency stop	MBO	PvdW
PART01875	01-04	06-11-2023	Preparing for CMS	MBO	WH
PART01875	01-05	01-02-2024	Added STANDALONE	MBO	SvdS
PART01875	01-06	13-03-2024	ARM/Enable update	MBO	GM
PART01875	01-07	16-10-2024	Updated front page	MBO	SvdS
PART01875	01-08	04-11-2024	Added registered trademark	MBO	DV

1. DESCRIPTION

The FLAMEBLAZER® SA is a special effects machine for controlled emission of flame jets into the air in a fixed direction.

The machine uses specific flammable fuels that are projected from a single outlet across spark ignition probes to produce the flame jet. An integrated electric pump draws the fuel from the 5 L can and generates the firing pressure.

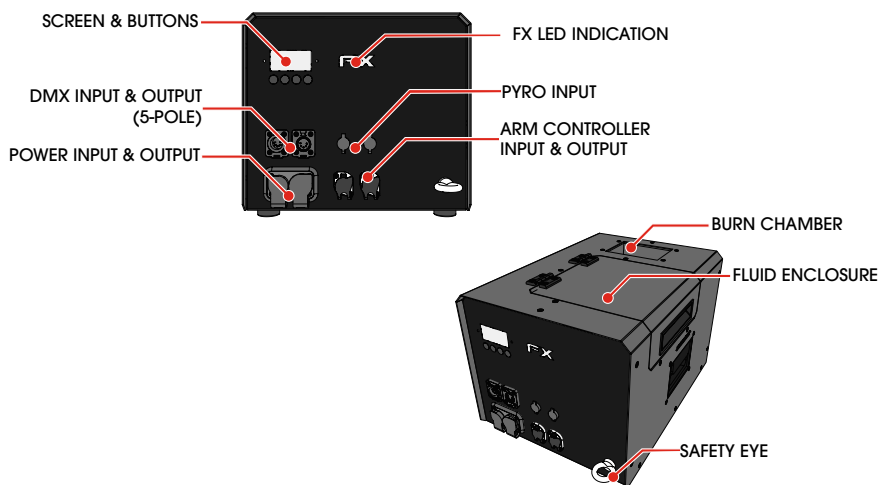
There are three nozzles available with the FLAMEBLAZER® SA which are interchangeable, allowing the user to choose a small, medium or large flame. Based on zero wind the sizes are as follows:

- S nozzle, up to 6 m (accessory);
- M nozzle, up to 8 m (accessory).
- L nozzle, up to 10 m (included);

A specific nozzle exchange tool is available to change between the S, M and L nozzles (SFX 1404)

The FLAMEBLAZER® SA is operated with DMX and RDM, or with an external low voltage pyro controller (9-40 Vdc). The FLAMEBLAZER® SA can be operated in sequence with multiple machines. Furthermore, the FLAMEBLAZER® SA is configured for safety control with an ARM SYSTEM.

1.1. MAIN PARTS



Main parts

1.2. FLAMEBLAZER® FUEL

The FLAMEBLAZER® SA uses two types of fuel to create the effect. The fuel is loaded into an ADR Can 5 L located in the machine.

⚠ CAUTION

Fuels are highly flammable and must be handled with caution and in accordance with local health and safety regulations. Always follow the safety instructions from the fuel packaging when handling and working with the fuel.

NOTICE

Only use these types of fuel: Isopropanol, ISOPAR G, H & L. The use of other fuels or water may degrade the performance of the machine or cause internal damage.

1.3. TECHNICAL DATA

Product	Product Name	FLAMEBLAZER® STANDALONE	
	Product Code	MFX1401	
	Product Type	FLAME FX	
Main Dimensions	Length	410 mm	16.4 in
	Width	300 mm	11.8 in
	Height	281 mm	11 in
Weight	Empty Weight	18.7 kg	41 lbs
Package	Length	540 mm	21.3 in
	Width	400 mm	15.7 in
	Height	420 mm	16.5 in
	Packaged Weight	20.7 kg	45.6 lbs
Environment	Minimum Temperature	- 10 °C	14 °F
	Maximum Temperature	50 °C	122 °F
	Humidity (Relative)	20 to 90 % (non-condensing)	
Electrical	Voltage Input	220 - 250 VAC	
	Voltage Frequency	50 - 60 Hz	
	Power Consumption	370 W	
	Power Connector	Neutrik® powerCON TRUE1 (in&out)	
Controlling	Control Options	DMX / Pyro	
	Control Protocols	DMX512-A (ANSI E1.11) RDM (ANSI E1.20) ≈ 9-40 Vdc	
	Control Connectors	Neutrik® 5-pole male/ female XLR 4 mm banana socket	

Technical data

Safety controlling	ARM Connector	Neutrik® etherCON RJ45 (in&out)
Configuring	Configure Options	On Device RDM
Usage	Consumable(s)	Isopropanol ISOPAR G, H & L
	Consumable	S nozzle: ≈ 1.4 L/min
	Consumption	M nozzle: ≈ 1.6 L/min L nozzle: ≈ 3.5 L/min

Technical data

1.4. PRODUCT IDENTIFICATION



Type plate

1.5. ACCESSORIES

Code	Product	Included
SFX1401	MAGICCFX® FLAMEBLAZER® Nozzle S	
SFX1402	MAGICCFX® FLAMEBLAZER® Nozzle M	
SFX1403	MAGICCFX® FLAMEBLAZER® Nozzle L	1x
SFX1404	FLAMEBLAZER® Nozzle exchange tool	
MFX0313	Schuko to Neutrik® powerCON TRUE1 cable - 1.5 m	
MFX0305	MAGICCFX® BASEPLATE II	
MFX3106	Doughty Half Coupler (100 kg) M10	

Accessories

Code	Product	Included
PART00119	Safety Steel	
PART01885	Empty ADR Can 5 L (w/out Cap)	1x
PART90119	FLAMEBLAZER® CUSTOM CAN CAP 5L	1x
MF3080	MAGICFX® Flame Fluid IPA 5L	
MF3086	MAGICFX® Flame Fluid Isopar 5L	

Accessories

Please contact MAGIC FX for additional possibilities.

For information about the accessories of the ARM CONTROLLER (MF3220), refer to the ARM CONTROLLER User and Installation Manual (PART01882).

1.6. ARM CONTROL

NOTICE

The FLAMEBLAZER® SA cannot be operated without connection to an ARM CONTROLLER in an ARM SYSTEM.

The FLAMEBLAZER® SA is configured for safety control with an ARM SYSTEM. The FLAMEBLAZER® SA cannot be operated without the safety signal from the ARM CONTROLLER. When there's no signal, the internal relief valve opens. The system depressurises immediately and prevents the FLAMEBLAZER® SA to produce any high-risk SFX output. As a result, any related hazard/or property damage is stopped and prevented.

The ARM CONTROLLER is equipped with a key switch to arm/disarm the connected SFX machine(s), an emergency stop button, and a reset button. The ARM SYSTEM is wired with EtherCON cables that carry the safety signal from the ARM CONTROLLER.

For more information about the ARM SYSTEM and to learn how to configure a complete safety system, refer to the ARM SYSTEM Configuration Manual (PART02323).

For more information about the ARM CONTROLLER and to learn how to correctly set up and use the ARM SYSTEM, refer to the ARM CONTROLLER User and Installation Manual (PART01882).

1.7. DMX CONTROL

The FLAMEBLAZER® SA is controlled with 1 enable address and 1 operational address:

DMX Address	Address range	Control
Enable address	1-512	Device enable / disable
Start address	1-512	Effect trigger

DMX Addresses

The enable address cannot be the same as the operational address. Operating of these addresses results in the following:

DMX Address	DMX Value (decimal)	DMX Value (decimal)	Result
Enable address	0	24	Device disabled
	25	64	Reset alarm codes
	65	99	Device pre-enabled (firing disabled)
	100	154	Device enabled
	155	255	Device disabled
Start address (effect trigger)	0	199	No output
	200	255	Output effect

Operation of the DMX addresses

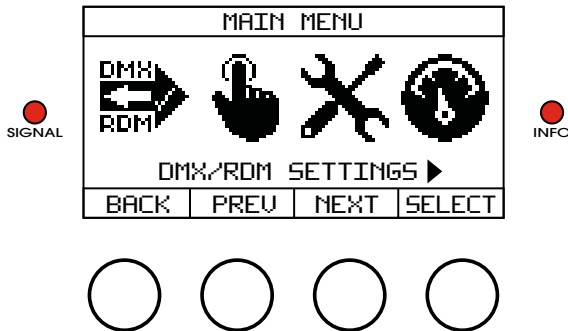
NOTICE

The maximum continuous duration of the effect is 5 seconds. After this period the effect will stop automatically. To start the effect again you must disable and re-enable the Effect trigger.

NOTICE

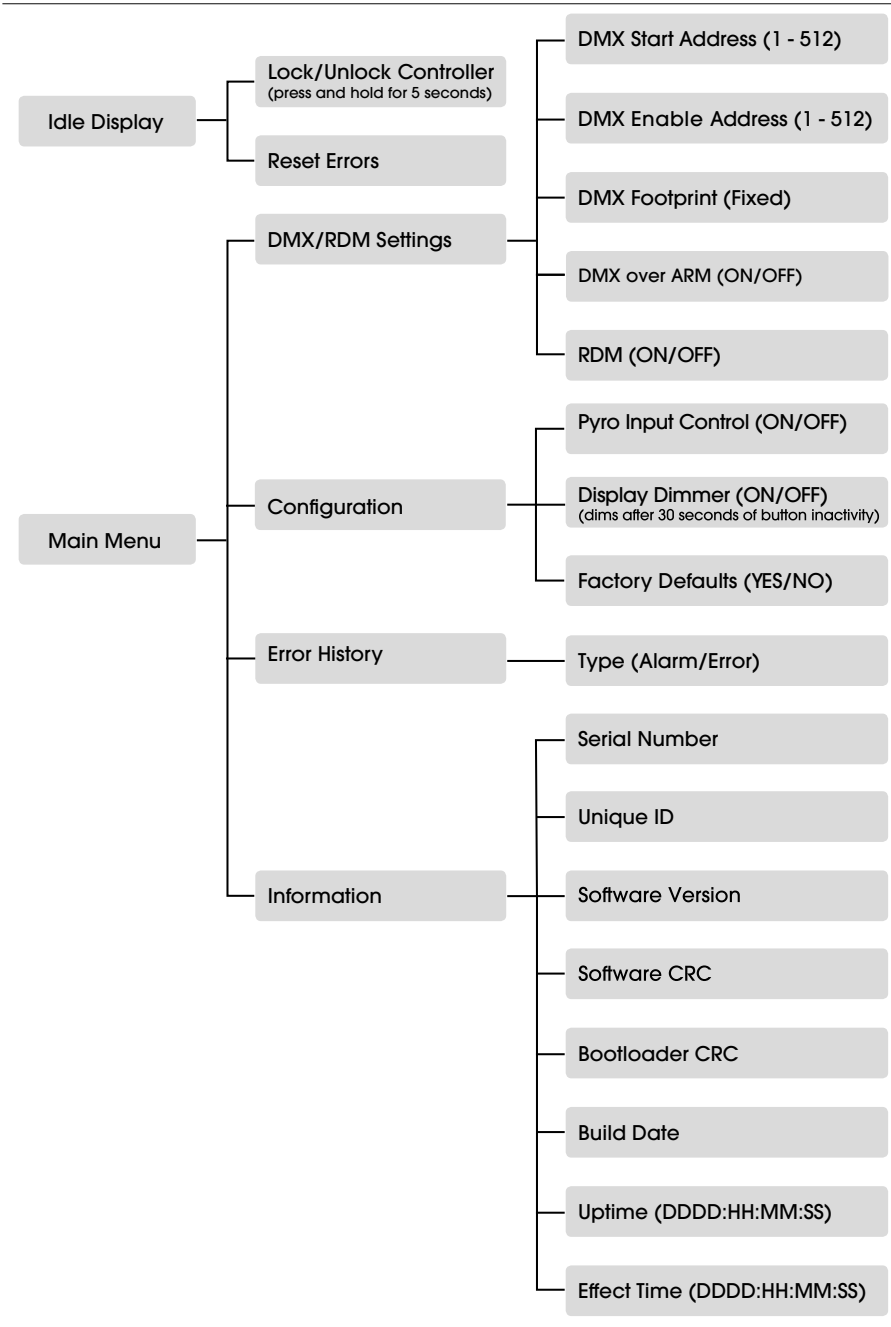
Always plug in a DMX Terminator into the DMX output of the final unit in the control sequence. Using a DMX Terminator improves signal reliability.

1.8. DISPLAY PANEL



Display panel

The display panel is located on the backside of the FLAMEBLAZER® SA. Check the following menu structure for all options in the menu. Use the buttons for navigation and selection. The signal LED blinks red when DMX signal is active. The info LED continuously lights red when an error is present.



Menu structure

Menu function	Explanation
Lock/Unlock Controller	Holding the Lock button for more than 5 seconds will “lock” the display functions. Meaning buttons will not respond. This to avoid accidental change of parameters via display. To unlock, hold the Unlock button for more than 5 seconds. In case system is armed display is locked.
Reset Errors	In case there is a locking error present, this button will reset the appliance. If the fault does not persist, the locking error will not reappear.
DMX Start Address (1-512)	Setting the DMX start address.
DMX Enable Address (1-512)	Setting the DMX Enable Address.
DMX Footprint	This parameter indicates the DMX footprint, in other words the amount of sequential channels used by the appliance. This does not include the enable channel.
DMX over ARM (On/Off)	If a combined DMX and ARM signal is used, set this option to ON. If the DMX signal runs separately, set this option to OFF. Make sure the DMX over ARM settings match your wiring setup.
RDM (On/Off)	Use this function to turn on/off the RDM functionality.
Pyro Input Control (On/Off)	Use this function to toggle between the control modes DMX and Pyro
Display Dimmer (On/Off)	Turn display dimmer on or off. If turned on, the display is dimmed automatically 30 seconds after the last button push.
Factory Defaults (Yes/No)	Restores the appliance factory default settings.
Type (Alarm/Error)	Toggle between the occurred locking error (Alarm) list, and blocking error (Error) list. Locking errors need intervention by user, although they are “auto-reset” 3 times before the appliance remains in error until reset by user. Blocking errors clear when the triggering fault disappears. 16 locked, and 16 blocked errors are logged. Top of the list shows the last occurring error.
Serial Number (DDDDD)	Appliance serial number as also printed on the appliance label.
Unique ID (HHHHHHHHHHH)	UID number as the appliance appears in the RDM device list after running discovery.
Software Version	Installed software version.
Software CRC	CRC of the functional software.
Bootloader CRC	CRC of the bootloader software.
Build Date	Release date of functional software.

Menu functions

Menu function	Explanation
Uptime (DDDD:HH:MM:SS)	Time counter which indicates how long the appliance has been powered in total.
Effect Time (DDDD:HH:MM:SS)	Time counter which indicates how long the effect has been on in total.

Menu functions

1.9. RDM CAPABILITY

Remote Device Management Protocol (RDM) is an enhancement of the DMX512 communication protocol. RDM can be used for configuration and status monitoring while DMX512 takes care of the default controlling.

For RDM you will need an RDM compatible controller.

The following RDM parameters are supported by the FLAMEBLAZER® SA.

Parameter ID	Discovery	GET	SET
DISC_UNIQUE_BRANCH	X		
DISC_MUTE	X		
DISC_UN_MUTE	X		
DEVICE_INFO		X	
SUPPORTED_PARAMETERS		X	
SOFTWARE_VERSION_LABEL		X	
DEVICE_MODEL_DESCRIPTION		X	
MANUFACTURER_LABEL		X	
SLOT_DESCRIPTION		X	
DMX_PERSONALITY_DESCRIPTION		X	
SENSOR_DEFINITION		X	
SENSOR_VALUE		X	
DMX_START_ADDRESS		X	X
IDENTIFY_DEVICE		X	X
DEVICE_LABEL		X	X
FACTORY_DEFAULTS		X	X
DMX_PERSONALITY		X	X
RESET_DEVICE			X

RDM parameters

RDM parameters are subject of change due to software updates. Contact MAGIC FX for the latest information and updates.

2. SAFETY

The FLAMEBLAZER® SA has been designed and constructed in such a manner that it can be used safely. This applies to the use, the circumstances and the regulations as described in this documentation. Reading this documentation and following the instructions are therefore necessary for everyone who is authorised to work with the FLAMEBLAZER® SA.

The FLAMEBLAZER® SA must be used in surroundings that:

- Have a reasonably stable temperature of between -10 and 50 °C.
- Have a relative humidity degree between 20 % and 90 % (non condensing).
- Are free of dust, corrosive gases and high concentrations of organic vapours.

2.1. GENERAL SAFETY RULES

- Only authorised persons may work with the FLAMEBLAZER® SA.
- Do not use the FLAMEBLAZER® SA if there are people or animals in the direct output.
- Make sure that children, unauthorised people and animals do not obtain access to the FLAMEBLAZER® SA.
- Do not use consumable fuel outside of the design intent as may lead to damage to the hardware, or hazardous situation to property and people;
- Do not use incorrect nozzles as this may lead to damage to property or injury to people. (Product supplied with L nozzle);
- Do not connect more units to a single electrical circuit than the installed fuse is able to handle. (Calculate the summed load with the electrical data from Chapter 1).
- Do not remove or bypass any safeguards and safety symbols.
- All required safety devices must be in good condition and function properly.
- Ensure sufficient lighting of the surroundings.
- Keep the workplace clean.






2.2. RIGGING

Please follow the European and national guidelines for safe rigging and trussing.

2.3. NOISE LEVELS

The measured maximum noise levels of the product is 79 dB(A) at 3 m distance away. Please follow the European and national guidelines regarding hearing protection.

2.4. SAFETY SYMBOLS

Symbol	Meaning	Position
	Read the manual carefully before use!	Front of the machine.
	Warning: Hot Surface! Do not touch.	Top of the machine, near the flame outlet.
	Warning: Flammable Fluid. Inside the ADR 5L can, the internal machine pipework and projected from the flame outlet.	Front of the machine.
	Warning: High Pressure. High Pressure liquid inside the internal machine pipework and projected from the flame outlet.	Front of the machine.
	Warning: High Voltage. The ignition probes in the flame outlet chamber during operation.	Top of the machine, near the flame outlet.

Safety symbols

2.5. SAFETY WARNINGS

WARNING

Eye contact with fuel under pressure and burning fuel from the machine can lead to serious eye injury. Always wear safety goggles when you enter the safety zone.



WARNING

Fuels are highly flammable and must be handled with caution and in accordance with local health and safety regulations. Always follow the safety instructions from the fuel packaging when handling and working with the fuel.

WARNING

Make sure there are no objects near the machine and within the output distance that can be damaged or catch fire by the emitted flame and fuel from the FLAMEBLAZER® SA.

⚠ WARNING

Make sure there are no substances or gasses present that can be ignited by the emitted flame and fuel from the FLAMEBLAZER® SA.

⚠ WARNING

Using a damaged or an improper installed machine can lead to death, serious injury or property damage. Always inspect the machine thoroughly before operation.

⚠ WARNING

Stop operating the machine immediately if emitted fuel catches fire on the unit or in the burn chamber. Extinguish any burning fuels with Carbon Dioxide, sand or foam. Consult the safety data sheet from the supplier for detailed safety instructions.

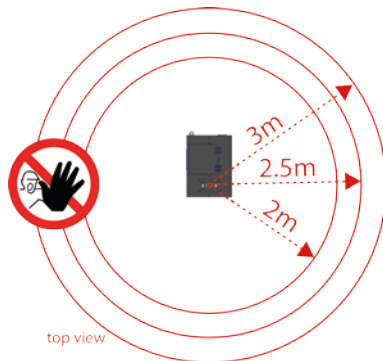
⚠ WARNING

Always create a suitable safety zone around the effect of the FLAMEBLAZER® SA. Furthermore, keep a clearance of an additional 50 % from the maximum height range of the installed e.g. S nozzle has a height range of up to 6 m so needs 9 m clearance above (6 m + 50 %). The advised safety zones depend on the size of the nozzle as each produces a different size flame as follows:

- S nozzle = 2 m;
- M nozzle = 2.5 m;
- L nozzle = 3 m.

Note that the zone direction shifts accordingly when the machine is installed in a tilted position.

Note that the zone shifts and increases with wind. As an approximate guide the distance measurement from the wind speed (in m/s) should be added to the standard safety zone e.g. wind speed of 5 m/s can add 5 m to the typical 3 m resulting in an 8 m safety zone in the direction of wind.



⚠ WARNING

Missing or obscured safety symbols on the machine can lead to death or serious injury. Make sure all safety symbols are correctly in place, see section 2.4.

⚠ CAUTION

The flame output burn chamber and enclosure heats up during operation and can cause burns when touched. Do not touch any metal parts of a (recently) triggered machine.

⚠ CAUTION

Any material that blocks the output nozzle can result in injuries, fire and damage to the machine when the machine is used. Always inspect the nozzle before operating and remove any obstructing material.

⚠ CAUTION

Only open the enclosure access lid when the machine is not powered.

⚠ CAUTION

The FLAMEBLAZER® SA should not be used in winds exceeding 32 km/h or 20 mph.

NOTICE

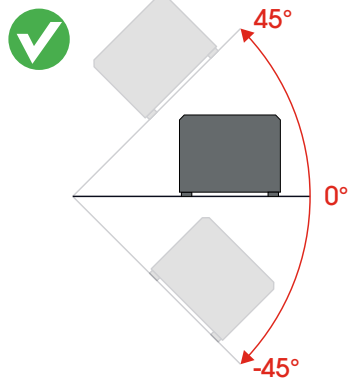
Always keep the machine dry and do not let excessive amounts of liquids such as rain or snow wet the machine.

3. INSTALLATION AND USE

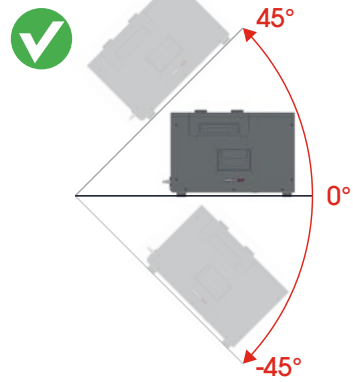
NOTICE

The FLAMEBLAZER® SA will also remain functioning correctly when angled at a maximum of 45° or -45°. However the fuel can will be tipped and may cause a reduction in available fuel to the machine so level installation is preferred.

front view



side view



3.1. INSTALL THE MACHINE

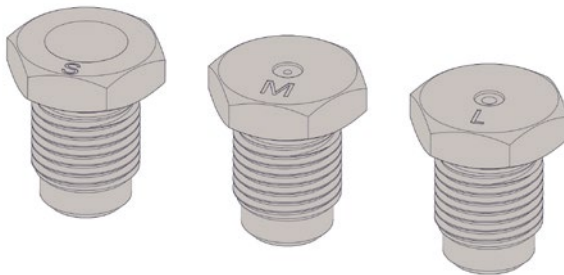
1. Install the FLAMEBLAZER® SA on a firm and preferably level surface.
2. Inspect the machine and remove any foreign objects and material that will block or obscure the nozzle or ignition probes of the machine during operation.
3. Take the necessary safety precautions, including:
 - a. Creating a safety zone with a distance of 3 m around the effect of the FLAMEBLAZER® SA and a suitable clearance height depending on nozzle size. This is calculated by taking the maximum height of the installed nozzle and adding 50 % safety factor as follows:
 - S nozzle = 9 m (6 m + 50 %);
 - M nozzle = 12 m (8 m + 50 %);
 - L nozzle = 15 m (10 m + 50 %).
 - b. Making sure that the direct output will be free from persons, animals and property.
 - c. Making sure there are no objects near the machine and within the output distance that can be damaged or catch fire by the emitted heat, flame and fuel from the FLAMEBLAZER® SA.

3.2. CHOOSE THE FLAME HEIGHT

NOTICE

The machine is supplied with an L nozzle installed which produces up to a 10 m flame.

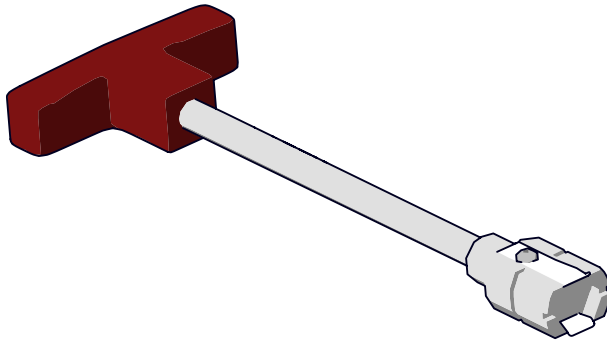
1. Choose a flame height that is safe for the environment and rigging position of the FLAMEBLAZER® SA and select the nozzle that will ensure the flame cannot exceed the physical limitations of this location.
 - S nozzle, up to 6 m (accessory);
 - M nozzle, up to 8 m (accessory).
 - L nozzle, up to 10 m (included);
-



WARNING

Operating the machine with a nozzle that does not have the sufficient safety clearances is dangerous and can cause damage to property and injury to people or animals.

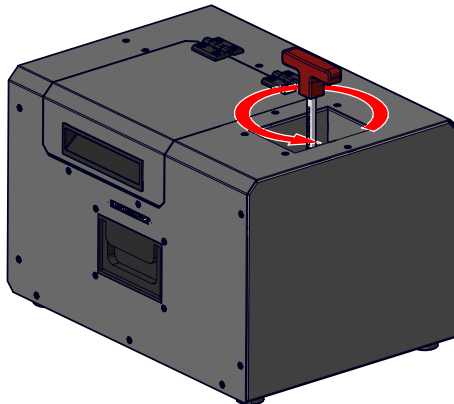
2. To remove the nozzle from the burn chamber place the FLAMEBLAZER® Nozzle exchange tool over the hex head of the nozzle being careful not to touch or miss-align the ignition probes.



NOTICE

The machine should be on level ground and the burn chamber clean of foreign objects and materials.

3. With the FLAMEBLAZER® Nozzle exchange tool held in a vertical position, continuous anti-clockwise rotation will result in the nozzle becoming free from the bulkhead. This can be lifted out of the burn chamber and the nozzle exchange tool should retain the nozzle with the internal sprung clip.



⚠ WARNING

Eye contact with fuel under pressure from the machine can lead to serious eye injury. Always wear eye protection when you change the nozzle.

⚠ CAUTION

Nozzle removal will result in the exposure of residual flammable fuel in the resulting orifice. Caution should be exercised to make sure this cannot be ignited.

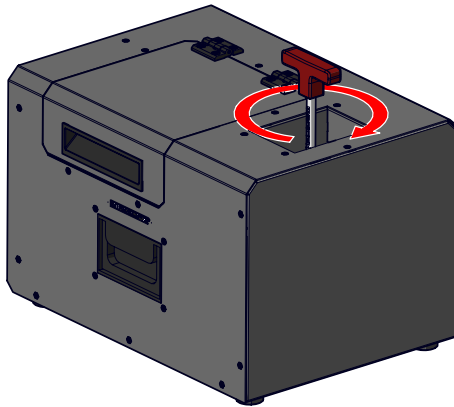
NOTICE

Ensure the washer seal remains with the nozzle when it is removed and does not stay in the burn chamber potentially obstructing the new nozzle from sealing properly.

4. Replace the nozzle that is not needed for the new nozzle and locate it in the socket of the FLAMEBLAZER® Nozzle exchange tool ready for installation, checking it has a washer seal.
-



5. Carefully lower the FLAMEBLAZER® Nozzle exchange tool with nozzle into the burn chamber until the nozzle locates into the bulkhead orifice. Rotate anti-clockwise until a click is heard or felt to check the threads are aligned. Make sure the tool is held vertical, continuous clockwise rotation will tighten the nozzle into place.
-



⚠ CAUTION

Check there is no foreign objects or material in the bulkhead orifice prior to inserting the nozzle as this can lead to blockages or misfires resulting in a dangerous situation.

⚠ CAUTION

Cross-threading the nozzle into the bulkhead, under tightening or not using a ring seal will cause a poor seal resulting in fuel leaks in the burn chamber.

NOTICE

The nozzle quickly goes from loose to tight as the seal meets the bulkhead and does not need to be tightened with excessive force. 12 Nm is sufficient for a good seal.

3.3. (RE)FILL THE FUEL

⚠ WARNING

Always make sure that the machine is disarmed and not enabled (FX LED indicator on the machine is dimmed) when you approach a machine.

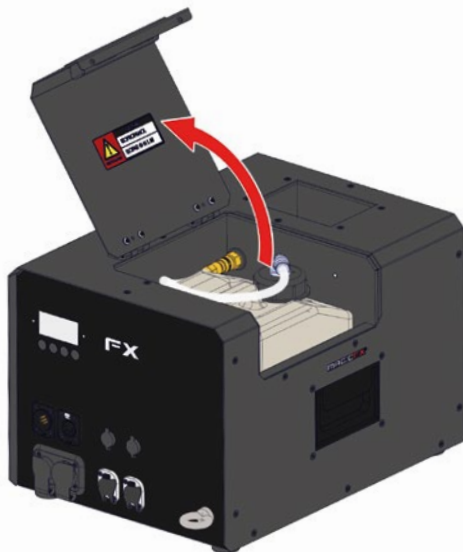
⚠ WARNING

Eye contact with fuel under pressure and burning fuel from the machine can lead to serious eye injury. Always wear eye protection when you come near a powered machine.

⚠ CAUTION

The flame output burn chamber and enclosure heats up during operation and could cause burns when touched. Do not touch any metal parts of a (recently) triggered machine.

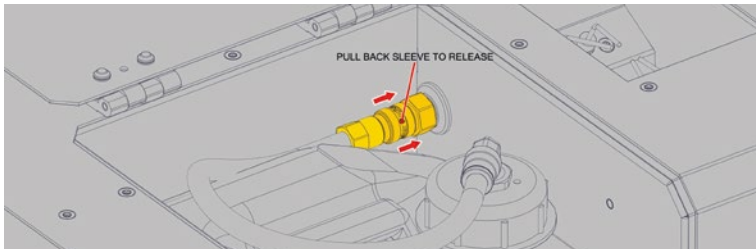
1. Disconnect the machine from the power supply.
 2. Open the enclosure access lid.
-



⚠ CAUTION

Fuels are highly flammable and must be handled with caution and in accordance with local health and safety regulations. Always follow the safety instructions from the fuel packaging when handling and working with the fuels.

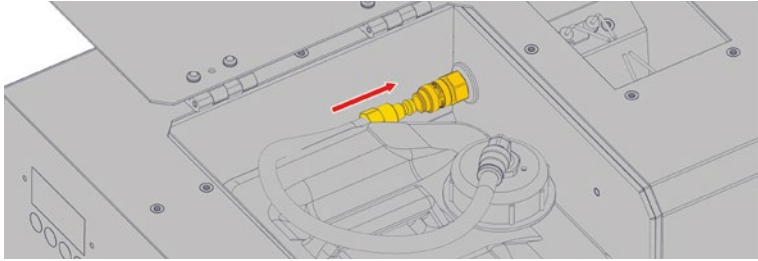
3. To remove the can from the housing pull back the sleeve of the quick release coupling to disconnect the fuel hose and remove the can from the enclosure. Once removed unscrew and disconnect the screw cap, hose and quick release coupling from the old can.



4. Insert the dip hose into the new can so that it touches the bottom and securely fit the screw cap to the can making sure it is tight and will not leak. Place the can into the housing so the cap is furthest away from the control panel.



5. Push the fuel hose into the quick release coupling on the machine, checking it has engaged properly.



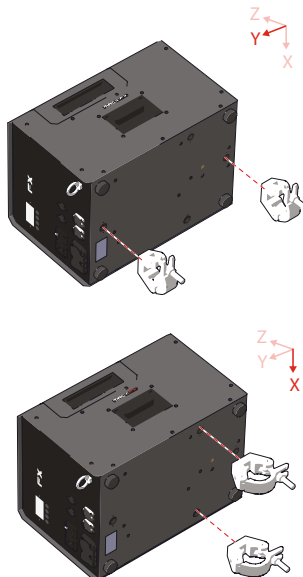
6. Close the enclosure access lid.

3.4. MOUNT ON A TRUSS

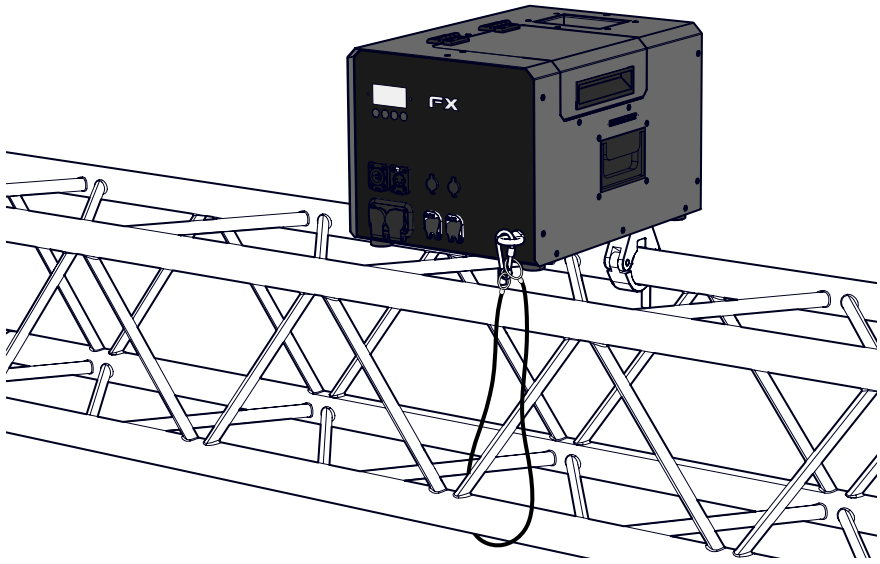
NOTICE

Use a MAGICFX® BASEPLATE II for mounting on top of an upright truss, see the User and Installation manual of the MAGICFX® BASEPLATE II (MFX0305).

1. Screw two clamps into threaded holes on the bottom of the machine. Use two Doughty Half Couplers M10 for truss mounting (MFX3106) and place the pair in x or in y direction.



2. Mount the half coupler on a truss and secure with a certified safety cable. Secure the FLAMEBLAZER® SA onto the truss.

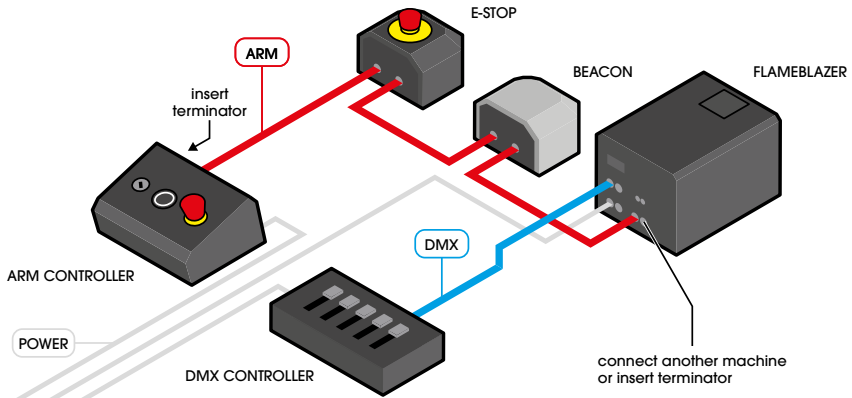


3. Inspect if the FLAMEBLAZER® SA is mounted firmly and secured correctly.
4. Inspect the machine and remove any foreign objects and material that will block or obscure the nozzle or ignition probes of the machine during operation.
5. Take the necessary safety precautions, including:
 - a. Creating a safety zone with a distance of 3 m around the effect of the FLAMEBLAZER® SA and a suitable clearance height depending on nozzle size. This is calculated by taking the maximum height of the installed nozzle and adding 50 % safety factor as follows:
 - S nozzle = 9 m (6 m + 50 %);
 - M nozzle = 12 m (8 m + 50 %);
 - L nozzle = 15 m (10 m + 50 %).
 - b. Making sure that the direct output will be free from persons, animals and property.
 - c. Making sure there are no objects near the machine and within the output distance that can be damaged or catch fire by the emitted heat, flame and fuel from the FLAMEBLAZER® SA.

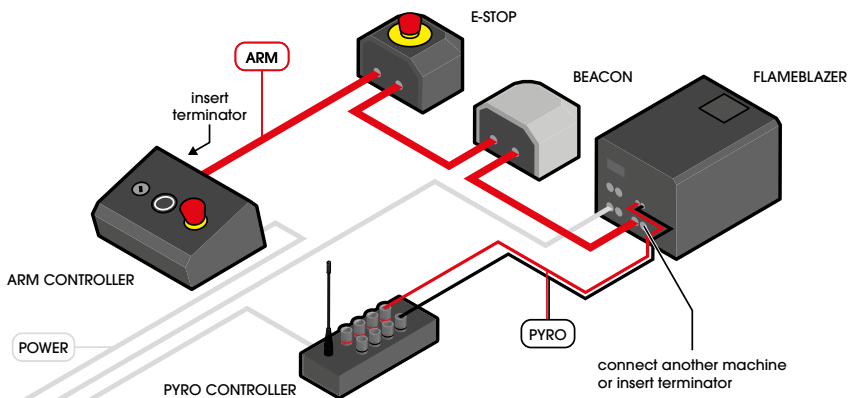
3.5. CONNECT THE MACHINE

1. Install the ARM CONTROLLER in compliance with the instructions from the ARM CONTROLLER User and Installation Manual (PART01882).

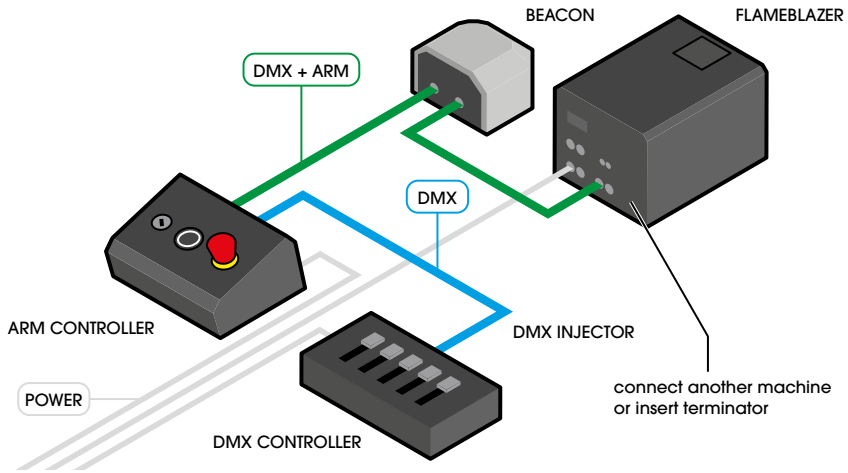
2. Connect the PowerCon TRUE1 power cable to the power input of the FLAMEBLAZER® SA. Connect the other end to a 100-250 Vac (50-60 Hz) power source.
 3. Connect the correct cables between the ARM CONTROLLER, the FLAMEBLAZER® SA, the control equipment, and other ARM SYSTEM components and machines (if applicable). Check the following variants for connection details.
- A** The FLAMEBLAZER® SA is controlled with DMX. The DMX signal and the ARM signal have separate cables.



- B** The FLAMEBLAZER® SA is controlled with pyro (9-40 Vdc).



- C The FLAMEBLAZER® SA is controlled with DMX. The DMX signal and the ARM signal are combined.



4. If controlled with DMX: Use the display and buttons or a RDM controller to assign DMX addresses, see Chapter 1.7.

For more connection and configuration options, refer to the ARM SYSTEM Configuration Manual (PART02323).

CAUTION	Do not connect more units to a single electrical circuit than the installed fuse is able to handle. (Calculate the summed load with the electrical data from Chapter 1)
NOTICE	Insert a TERMINATOR in the last ARM output of each line to close the safety circuit. The ARM SYSTEM will not work when a line remains open.
NOTICE	Make sure Pyro Input Control is set to OFF otherwise the DMX signal LED will not flash, even when there is a DMX signal applied.
NOTICE	When using the pyro Input Control method, make sure Pyro Input Control is set to ON. The DMX signal LED will not light up.
NOTICE	Always plug in a DMX Terminator into the DMX output of the final unit in the control sequence. Using a DMX Terminator improves signal and reliability.

3.6. FIRE WITH DMX

CAUTION

Wind can influence the effect and cause flames and fuel to divert off vertical.

1. Power the machine.
 2. Make sure that the prescribed safety zone is clear and there is a suitable clearance above the unit for the chosen nozzle.
 3. Set the safety key on the ARM CONTROLLER in the ON position. The FX LED lights in red, indicating the system is now armed and the FLAMEBLAZER® SA and other connected SFX machines are ready to be operated.
 4. Activate the DMX enable address. The pump is activated and pressurizes the system. The FX LED indicator on the machine will flash.
 5. When it's time to flame, set the DMX value for **Effect trigger** between 200 and 255.
 6. Set the DMX value for **Effect trigger** between 0 and 199 if you want to stop flaming.
 7. Set the safety key in the OFF position to disarm the ARM SYSTEM and disable operation of the FLAMEBLAZER® SA and other connected SFX machines.
-

NOTICE

The maximum continuous duration of the effect is 5 seconds. After this period the effect will stop automatically. To start the effect again you must disable and re-enable the **Effect trigger**.

3.7. FIRE WITH PYRO

If pyro is used, follow the next steps:

1. Power the machine.
 2. Make sure that the prescribed safety zone is clear and there is a suitable clearance above the unit for the chosen nozzle.
 3. Set the safety key on the ARM CONTROLLER in the ON position. The pump is activated and pressurizes the system. The FX LED on the FLAMEBLAZER® SA starts flashing, indicating the system is now armed and the FLAMEBLAZER® SA and other connected SFX machines are ready to be operated.
 4. When it's time to flame, turn on a 9-40 Vdc signal from the pyro controller to the pyro input.
 5. Turn off the 9-40 Vdc signal from the pyro controller if you want to stop flaming.
 6. Set the safety key in the OFF position to disarm the ARM SYSTEM and disable operation of the FLAMEBLAZER® SA and other connected SFX machines.
-

NOTICE

The maximum continuous duration of the effect is 5 seconds. After this period the effect will stop automatically. To start the effect again you must disable and re-enable the 9-40 Vdc.

3.8. USE THE EMERGENCY STOP

1. When an emergency occurs or is about to occur with the FLAMEBLAZER® SA, you press the emergency stop button on the ARM CONTROLLER or on an external E-STOP (if present).
As a result the pressure will be removed from the system and the ignition transformer will be blocked. Any related hazard or property damage is stopped and prevented.
2. Set the safety key on the ARM CONTROLLER to the OFF position.
3. Resolve the emergency situation and inspect the FLAMEBLAZER® SA.
4. Release the emergency stop and perform a reset. For instructions, refer to the ARM CONTROLLER User and Installation Manual (PART01882).
5. If DMX is used, set the enable and effect channel back to 0.

4. TROUBLESHOOTING

Code	Meaning	Solution
018	Pressure keeps dropping.	Make sure the fuel can is not empty. If the problem is not solved, contact MAGIC FX.
020	Pressure Sensor Failure.	Contact MAGIC FX.
121	Orientation of device out of safe bounds.	Keep the device within previously described safe bounds.

Troubleshooting

Always contact MAGIC FX if any malfunctions or errors occur that cannot be solved with the instructions as described in this manual.

5. MAINTENANCE

To achieve the maximum service life of the FLAMEBLAZER® SA you must regularly clean the FLAMEBLAZER® SA and test if it is functioning correctly.

Before conducting any maintenance ensure the machine is switched off and disconnected from a power source and the machine is not hot from recently being used. Always use personal protective equipment such as safety glasses and gloves when handling fuels.

Maintenance task**Activity**

General clean.

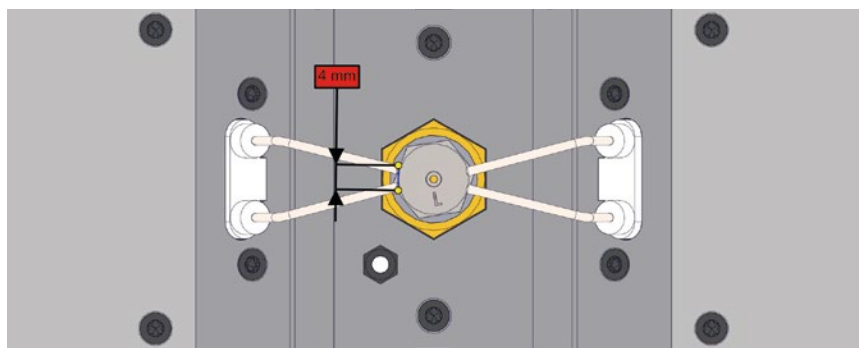
Remove any foreign objects from burn chamber before every use being careful not to move or damage the spark ignition probes. Remove any dust or dirt from hose connections with a non-abrasive damp cloth.

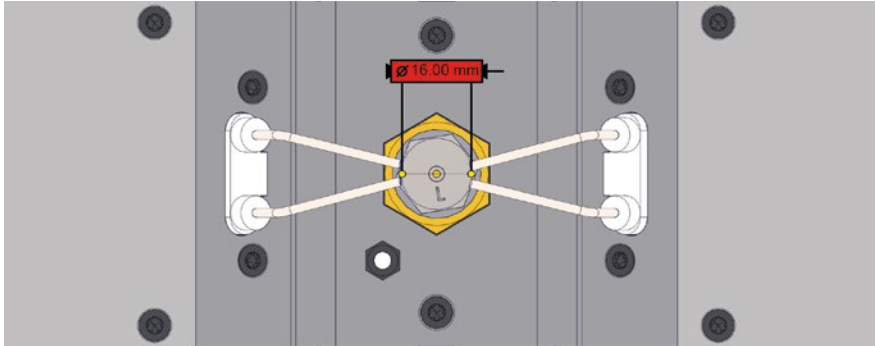
Inspect and clean nozzles.

Remove nozzle with FLAMEBLAZER® Nozzle exchange tool. Submerge nozzle in Isopropanol for minimum of 1 minute. Remove from solution and when dry use compressed air to blow through the nozzle in opposite direction of fuel. Before inserting nozzle back into machine conduct a visual check of the washer seal to make sure no damage to the soft material and replace the washer seal if damaged.

Inspect and clean spark ignition probes.

Any foreign particles should be removed from the probes, which can be cleaned with Isopropanol and a light abrasive cloth. Ignition probes should not be adjusted from the factory setting as this is critical to safe and reliable ignition. To check they are in the correct position each pair of probes must have a gap from tip to tip of 4 mm (+/-2 mm) and opposite probes must have a gap from tip to tip of 16 mm (+2 mm). If they do not have these gaps or are miss-aligned in anyway contact MAGIC FX.



Maintenance task**Activity**

Contact MAGIC FX if the FLAMEBLAZER® SA is not functioning correctly.

Firmware updates can add additional features and fix bugs so regularly check on the website or with your MAGIC FX account manager to ensure you have the latest version.

⚠ DANGER

Do not replace parts yourself; always consult MAGIC FX if necessary.

6. CORRECT DISPOSAL



This symbol on the product and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product to designated collection points where it will be accepted free of charge. Alternatively, in some countries you may be able to return your products to your local retailer upon purchase of an equivalent new product. Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

7. EC DECLARATION OF CONFORMITY

According to Annex II A Machinery Directive 2006/42/EC

MAGIC FX B.V. declares as manufacturer and composer of the technical construction file that the product with the following specifications:

Name machine	: FLAMEBLAZER® STANDALONE
Type	: MFX1401
Voltage	: 220-250Vac 50/60Hz
Serial number	: on product
Year of construction	: on product

Is in conformity with the minimal safety regulations as stated in the following directive(s):

- LVD (2014/35/EU) Low Voltage Directive
- EMC (2014/30/EC) ElectroMagnetic Compatibility
- RoHS (2011/65/EU) Restriction of the use of certain Hazardous Substances
- WEEE (2012/19/EU) Waste Electrical & Electronic Equipment

The following harmonized standards were applied:

- NEN-EN-ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction.
- NEN-EN-IEC 60204-1:2006, Safety of machinery - Electrical equipment of machines - Part 1: General requirements.
- NEN-EN-IEC 61000-6-3:2007/A1:2011, Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.

- Original declaration of conformity
- Translation of the original declaration of conformity

Name manufacturer	: MAGIC FX B.V.
Address	: Schouwrooij 27, 5281 RE BOXTEL
Country	: The Netherlands
CEO	: B. Veroude
Date	: 6-2-2020
Signature	



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WWW.MAGICFX.EU

