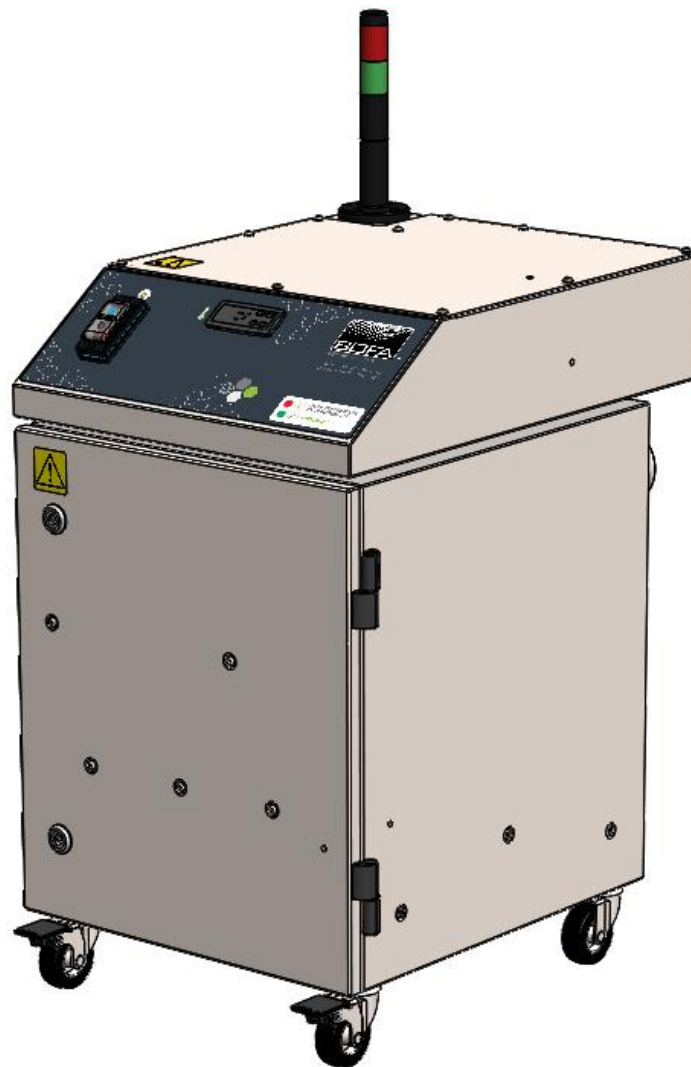




A WORLD LEADER IN FUME
EXTRACTION TECHNOLOGY

Spark Arrestor V2

USER MANUAL

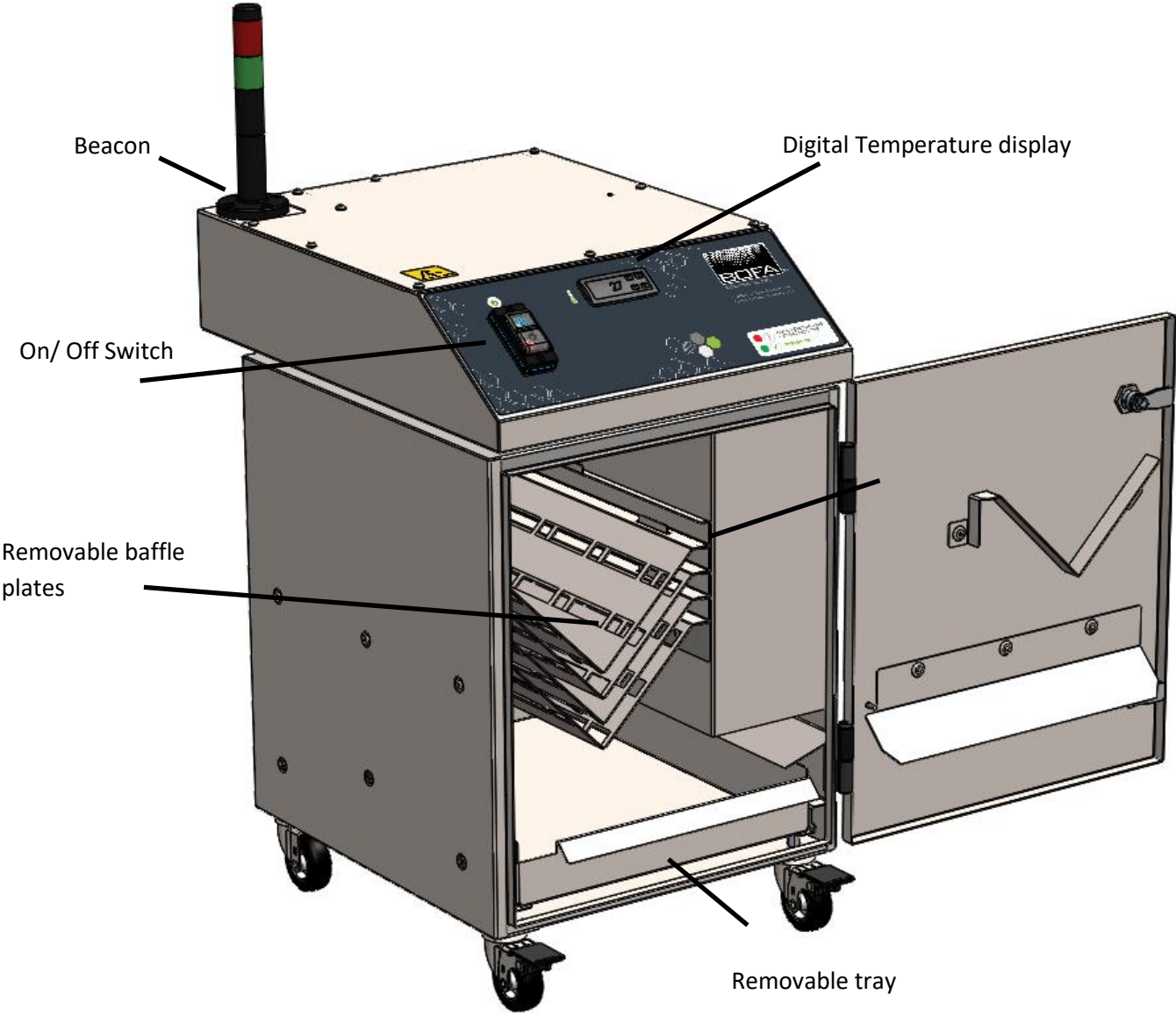


Contents

1	01	Overview of your Spark arrestor Unit (front)
	02	Overview of your Spark arrestor Unit (back)
2	01	Important safety notes
	02	Safety labels
3	01	Unpacking and unit placement
4	01	Fume capture methods
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5	01	Turning system on / Setting trip point
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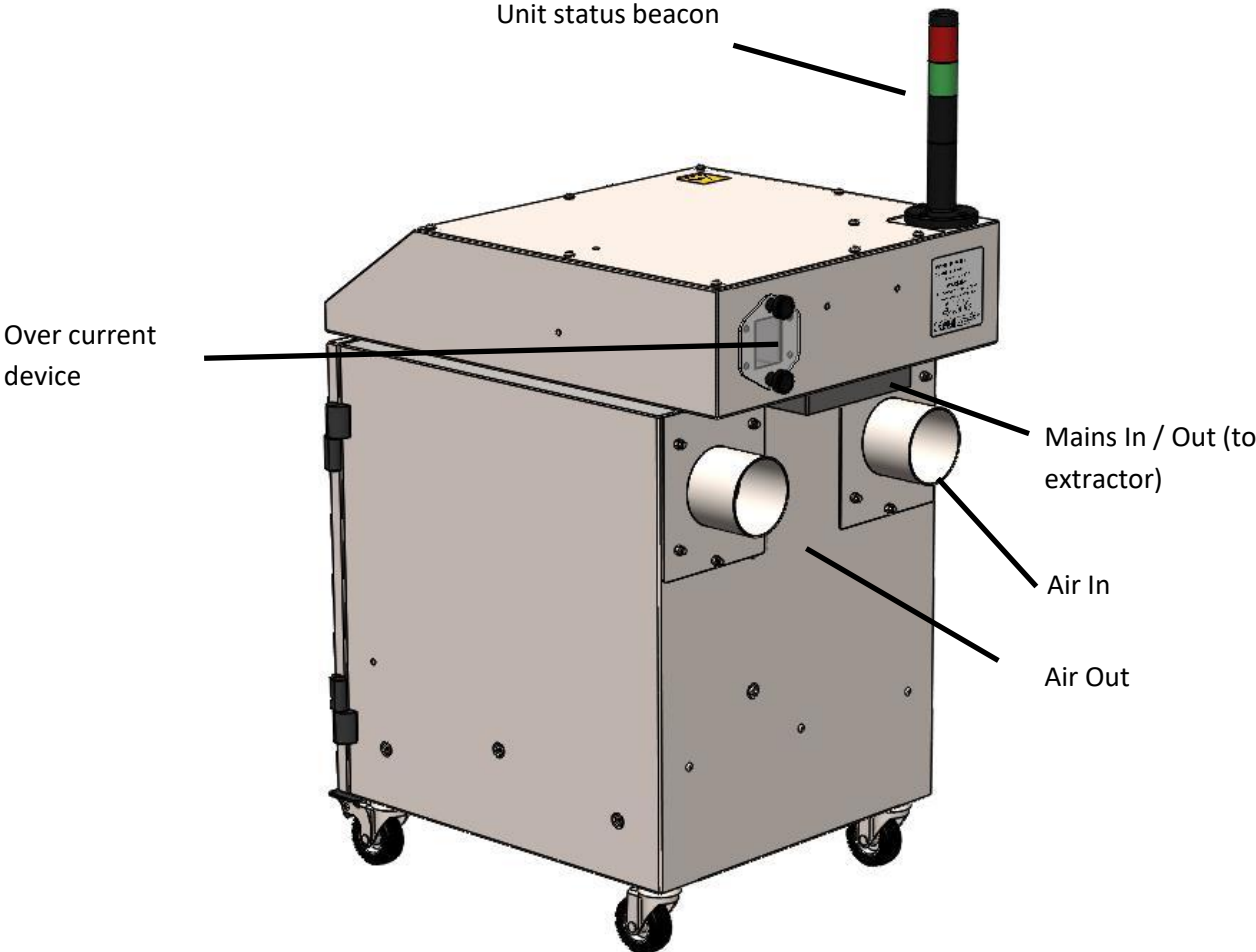
Overview

1 01



Overview

1 02



Safety Instructions



Important safety notes

Concerning symbols used on the extraction unit and referred to within this manual.



Danger

Refers to an immediately impending danger. If the danger is not avoided, it could result in death or severe injury. Please consult the manual when this symbol is displayed.



Warning

Refers to a possibly dangerous situation. If not avoided it could result in death or severe injury. Please consult the manual when this symbol is displayed.



Caution

Refers to a possibly harmful situation. If not avoided, damage could be caused to the product or something in its environment.



Important (Refer to manual)

Refers to handling tip and other particularly useful information. This does not signify a dangerous or harmful situation. Refer to manual when this symbol is displayed.

Safety

The unit has been designed to meet the Essential Health and Safety Requirements of the Machinery Directive 2006/42/EC.

Warning

When working with the pump/motor housing open, Live 230/115 volt mains components are accessible. Ensure that the rules and regulations for work on live components are always observed.

Important

To reduce the risk of fire, electric shock or injury:

1. Always isolate the system from the mains power supply before removing the electrical access panel.
2. Use only as described in this manual.
3. Connect the system to a properly grounded outlet.

Dangers to eyes, breathing and skin

Once used, the internal area of the unit may contain a mixture of particulates, some of which may be sub-micron size. When the internal parts are moved it may agitate some of this particulate, which could get into the breathing zone and eyes of the operative. Additionally, depending on the materials being processed, the particulate may be an irritant to the skin.

Caution: When opening the door always wear a mask, safety shoes, goggles and gloves.

Intended use

This equipment has been designed to extract and filter fume from a variety of applications when used in conjunction with a host extractor. However it is the users responsibility to ensure the equipment is installed correctly and is suitable for the application.

This machine must not be used on wet applications or acidic fumes.

BOFA Technical Service

If a problem arises with your system, please:

- Visit our website at www.bofainternational.com for on-line help.
- Or contact the helpline on **+44 (0) 1202 699 444**, Mon-Fri, 9am-5pm.
Email: Technical@bofa.co.uk

Safety Instructions



Warning and Information labels

The following listing details labels used on your unit.

Goggles, Gloves & Mask Label



Meaning: Goggles, Gloves and Masks should be worn while handling used filters.

Electrical Danger



Meaning: Removal of panels with this label attached will allow access to potentially live components.

Warning Label



Meaning: Power should be isolated before the panel with this label attached is opened/ removed.

Serial Number

For future reference, fill in your unit details in the space provided. The serial number is on the rating label located on the side/rear of the unit.

Serial Number:

S	P	A	R	K	A	R	R	E	S	T	O	R	V	2	-

Serial Number Label



*example of label

Meaning: This label contains a variety of information about the extraction unit, including.

- Company name, Address & Contact number
- Extractor model
- Unit serial number
- Operating voltage range
- Maximum current load
- Operating frequency
- Year of Manufacture
- Relevant approval markings/ logos

PLEASE NOTE: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment maybe compromised.

Fire Risk Warning

In the very rare event that a burning ember or spark is drawn into the unit, it may be possible that the material inside the system will ignite.

Whilst any resultant fire would typically be retained within the unit, the damage to the unit could be significant. It is therefore essential to minimise the possibility of this occurring by undertaking an appropriate Risk assessment to determine:-

- Whether additional fire protection equipment should be installed.
- Appropriate maintenance procedures to prevent the risk of build-up of debris which could potentially combust.

This unit should not be used on processes with explosive dusts and gases, or with particulates which can be pyrophoric (can spontaneously ignite), without implementation of additional precautions

It is essential that nozzles or other extraction/ fume capture devices and hoses/pipework are cleaned regularly to prevent the build-up of potentially ignitable debris

Before installation

3 01

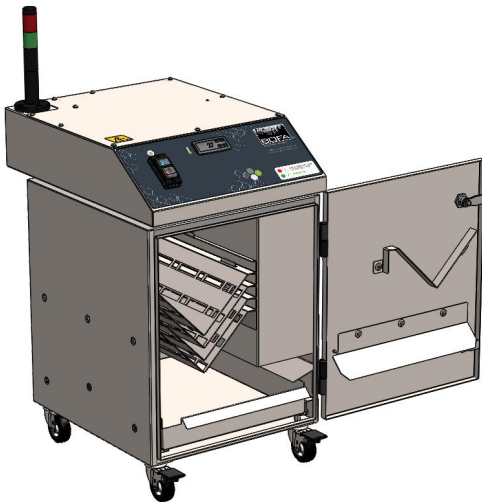
Unit placement

Before installation, check the unit for damage.

All packaging must be removed before the unit is connected to the power supply.

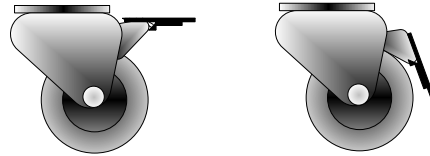
Please read all instructions in this manual before using this extractor.

1. Move the unit to the location where it is going to be installed and remove the outer packaging. **This unit should be installed in a well-ventilated area.**
2. Open the front door and check the baffle plates are located correctly. (remove any transit foam, if fitted)



Ensure that 500 mm space is available around any vented panels on the unit to ensure adequate airflow.

3. With the unit in position lock the 2 front castors.



Unlocked Position

Locked Position

Caution



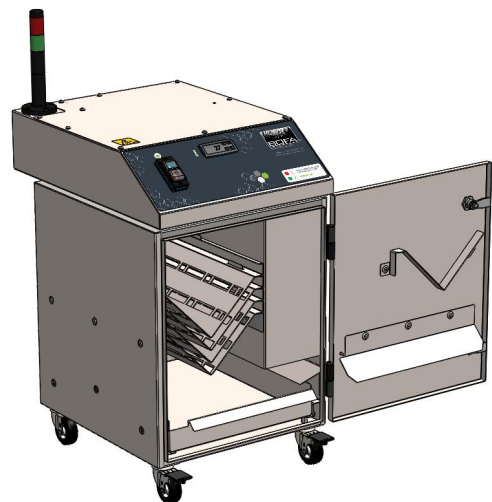
Do not block or cover any cooling vents on the unit, as this severely restricts airflow and may cause damage to the unit.

Caution



Under no circumstances should the exhaust outlet/s be covered as this will restrict the airflow and cause overheating.

4. Check the baffle plates are located in their correct position before closing the door and securing the door latches.



Caution

Due to the weight of the extractor suitable lifting equipment should be used and with regard to appropriate safety precautions. (See Appendix for product weight details)

Installation

4 01

The unit has been designed to be installed as an inline device that should be connected between the fume source and the extraction unit. Please ensure correct risk assessments are created before this product is installed. Please contact BOFA if unsure if your application is correct for this product.

Requirement: Metal pipework must be used.

Fume Capture Methods

The fume is normally captured by 1 of 3 methods.

- Flexible arm/ Nozzle
- Enclosures
- Cabinets

General Guidelines for a successful installation

- Keep duct run length to a minimum
- Avoid sharp bends / turns in the ductwork
- Avoid multiple bends / turns in the ductwork
- Use a larger diameter duct where able
- Position the capture device as close as possible to the marking point. (if used on high speed lines, position the capture device slightly downstream)

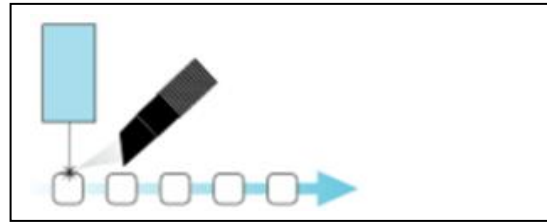
Flexible Arm & Nozzle Extraction

The stay put arm should be mounted as close as possible to the marking point using the horseshoe clips. Remove the connector from the other side of the flexible hose. Cut the flexible hose to suit the distance back to the extractor connection and connect onto the extractor inlet.

Purge air should be kept to a minimum, where possible, to prevent the fume being blown away from the nozzle. High speed lines may need bigger scoops or nozzles both sides of the product because of the turbulence caused by the speed of the line.

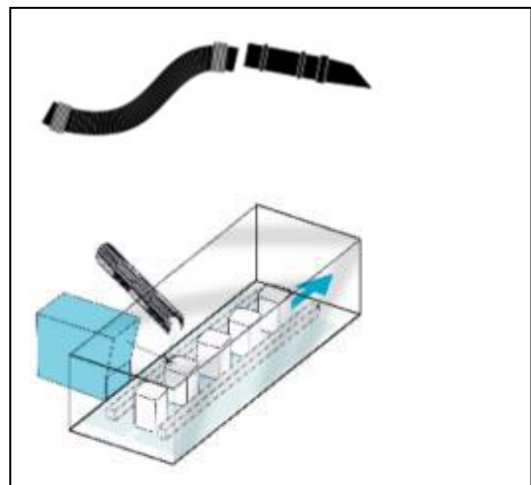
Moving products

For applications where the product to be marked is moving past the stationary head the capture nozzle should be positioned as close as possible to the marking area on the side the product is moving towards.



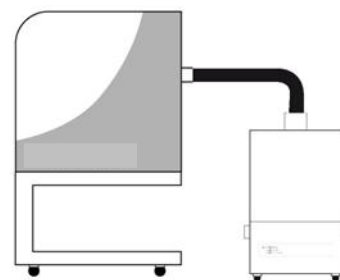
Enclosures

The extraction hose and nozzle can be attached to the enclosure surrounding the marking zone provided that the extraction point is within 50-75mm of the marking point.



Cabinets

Cabinets normally have a 75mm or 100mm spigot for fume extraction. For best performance use the same diameter hose as the spigot and reduce at the extractor end if necessary. **Keep the hose run as short as possible.**



Connection to extraction unit

All ductwork should be installed and connected to the extraction unit before the system is turned on.

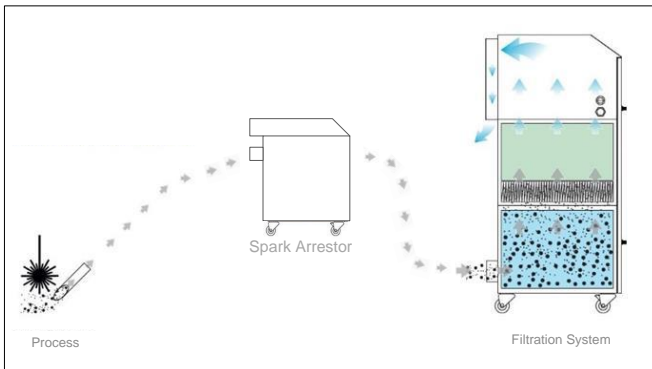
Installation

4 02

Connecting Auxiliary extraction unit

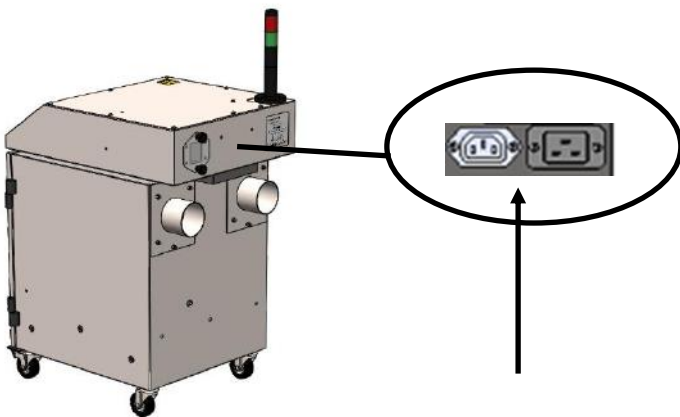
The spark arrestor should be paired with a BOFA Fume extraction unit (up to a capacity of 850m³/h)

The spark arrestor should be connected inline between the process and the extraction system as shown below. Please refer to section 1.02 for hose connections to the Spark arrestor.



The power supply for the extractor should be connected through the spark arrestor to ensure the airflow is stopped when the spark arrestor detects an issue. (Max 13A)

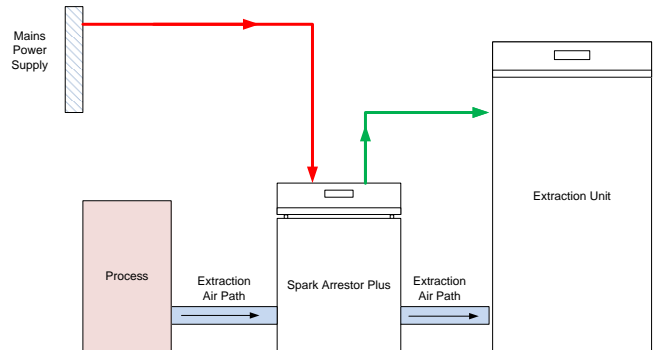
The mains cable from the extractor unit should be wired with the IEC plug provided and connected to the IEC outlet below.



Isolate the mains supply when connecting power leads

Connection to Power Supply

Please follow the specification at the end of this manual when selecting the power supply outlet. Consideration must also be given to the electrical load that will be connected to the Spark arrestor from the extraction unit., ensure the power supply is suitable before connecting the Spark arrestor.



Check the Integrity of the electrical power cable, if the supply cord is damaged the extraction unit should not be connected to the mains. A PAT test is required after the mains cable is changed.

The system **MUST** be connected to a properly earthed outlet.

Connect the power cable to an isolated electrical supply.

The mains socket should be installed near the spark arrestor and should be easily accessible and able to be switched On/ Off. The cable run should be arranged so as not to create a trip hazard.

Operation

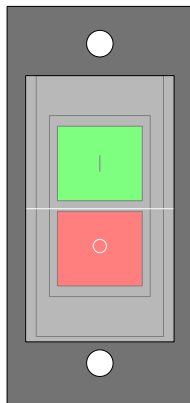


Turning the Spark arrestor On

ENSURE THE AMBIENT TEMPERATURE IS BELOW 30 DEGREES CELSIUS BEFORE SWITCHING THE SPARK ARRESTOR ON FOR THE FIRST TIME.

To switch the Spark arrestor "On" the (I) side of the switch should be depressed. (Refer to section 1 for switch location)
To turn it off the (O) side should be depressed.

Please Note: Turning the Spark arrestor off will disconnect the power to any auxiliary unit connected through the Spark arrestor.



The extractor and all pipe work must be fully installed and connected before the Unit is turned ON.

Setting the controller

The controller is factory set at 30°C but it is very important that the controller is adjusted 10°C higher than the airflow temperature when running in normal conditions.

When the controller reaches the set temperature the power to the extractor will be stopped!

Setting the temperature too low, will cause the power to be cut prematurely.

Setting the temperature to high, will not cut the power at the correct time.

It is the customers responsibility to set the correct temperature set point.

How to set the controller

Take an ambient temperature measurement in the area where the Spark arrestor will be located.

1. Press the "P" button and the screen will display "SP" as shown below.



2. The controller is now in set mode. Use the Up / Down button to set the temperature .



3. Press the "P" button once again; this will save the new trip point.

Operation



Warning Beacon

The Spark arrestor includes a 2-colour beacon. This is used to provide the operator with a clear indication on the status of the Spark arrestor.

The diagram below provides information on each colour.



RED – Over temperature

GREEN - OK

Green light – Unit is operational and running within the temperature parameters.

Red Light – Spark arrestor has detected a temperature rise above the set point. At this point the Spark arrestor will shut down the extraction system.


In the event of overtemperature (red light)


The Spark arrestor will have stopped the extraction system. At this time it is important to follow your risk assessment procedure. If the extraction system has been inspected and is safe to use then cycle the power continue use. If not then the Spark arrestor should be taken out of use and replaced.

At this time some parts of the Spark arrestor may be hot so suitable precautions must be taken to avoid harm.

Symbols on the temperature display:



 = Means the main relay is set to OK (Power output is on and beacon displays green)

 = This indicates the temperature is within 5° of the set point. (the point at which the relay cuts the power, the red beacon light comes on and the alarm sounds) .

Maintenance



Maintenance UK

It is a legal requirement, under regulation 9 of the COSHH regulations that all local exhaust ventilation systems are thoroughly examined and tested at least once every 14 months (typically carried out annually). The approved code of practice recommends that a visual check should be carried out at least once a week.

COSHH requires the annual inspection and testing to be carried out by a competent person and specifies that documentation results are recorded in a log.

Contact the seller for more information about inspection and certification.

Maintenance General

User maintenance is limited to cleaning the unit and filter replacement, only the manufacturers trained maintenance technicians are authorised to carry out component testing and replacement. Unauthorised work or the use of unauthorised replacement filters may result in a potentially dangerous situation and/or damage to the extractor unit and will invalidate the manufacturer's warranty.

Cleaning the unit

The stainless steel units should be cleaned with a proprietary stainless steel cleaner, in accordance with the manufacturer's user instructions

Cleaning the internal baffle plates and collection tray

Refer to section 2.02 for PPE requirements.

A risk assessment should be conducted to determine the required frequency for cleaning of the baffle plates and the emptying of the collection tray.

To clean the baffle plates:

Goggles gloves and masks should be worn when cleaning the internal areas of the extraction system.

- 1: Isolate the mains supply
- 2: Open the door of the extraction unit
- 3: Remove all the baffle plates
- 4: Brush off the particulate
- 5: Replace the baffles, close the door and turn the system on

To empty the collection tray

Goggles gloves and masks should be worn when cleaning the internal areas of the extraction system.

- 1: Isolate the mains supply
- 2: Open the door
- 3: Remove the tray
- 4: Empty the tray and brush out
- 5: Replace the tray, close the door and turn

A log of the maintenance should be completed by the user.

To prevent overheating, units should not be run with a blocked filter condition, or with dust obstruction of Inlets / Outlets.

Replacement Parts



Maintenance Protocol

Filter changes may be recorded in the table below.

Unit Serial Number:	
Cleaning & Tray Emptying	
Date	Engineer

For your guidance

Deposit	EWC Listing*	Comment
Non Hazardous	15 02 03	Can be disposed of as non-hazardous waste.
Hazardous	15 02 02M	The type of hazard needs to be identified and the associated risks defined. The thresholds for these risks can then be compared with the amount of material in the filters to see if they fall into the hazardous category, if so, the filters will need to be disposed of in line with the local/national regulations.

*European Waste Catalogue

Annex I – Optional components

6₀₃

Power module - Installation

1. Isolate the spark arrestor from all energy sources.
2. Move the module to the location where it is going to be installed and remove the outer packaging.
3. Using an M5 tool remove the two lower bolts on the spark arrestors spigots (See point "A" on figure 1).
4. Then position the module to line up with the two holes and secure in place using the bolts and washers provided with the module.
5. Connect the power cable from the module to the spark arrestor (see figure 2), and then the power lead from the BOFA extraction unit to the spark arrestor (see figure 3).
6. Ensure the extraction unit still has adequate ventilation area with 500mm space around any vented panels once the module has been installed. Do not block or cover the unit openings.
7. **Please Note:** It is very important to ensure that the neutral connection is connected before turning the unit on. Failure to do this may result in damage to the extraction unit.

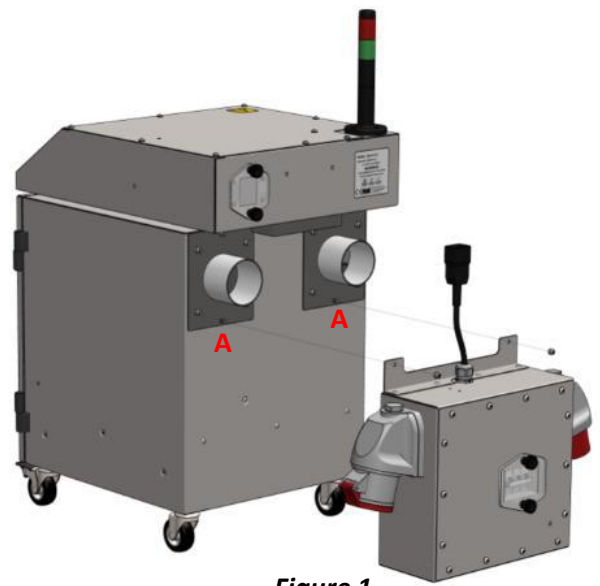


Figure 1

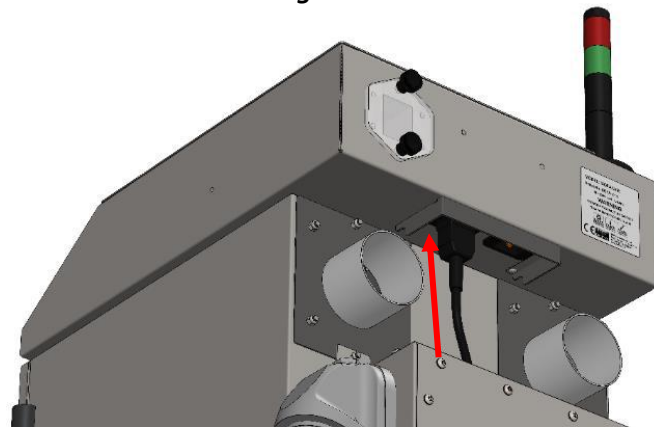


Figure 2

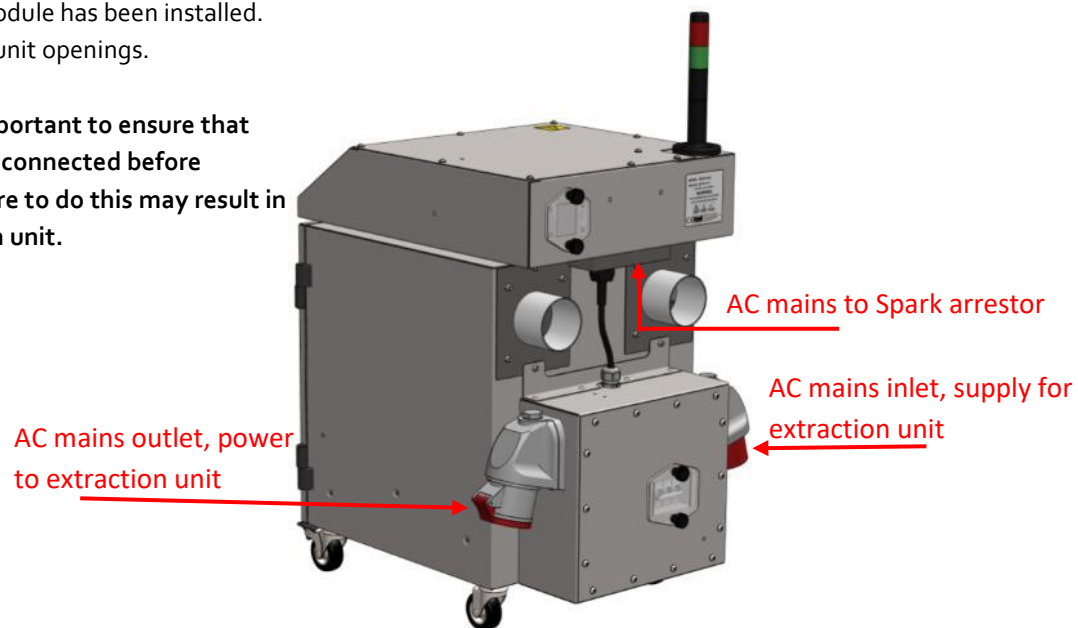


Figure 3

System Specifications



Wiring schematic available upon request
Spares parts list available upon request

Unit: Spark arrestor

Max Capacity: 850m³/h (500cfm)
Weight: 40Kg (88lbs)
Electrical supply: 115-230V
No of phases: 1
Hertz: 50/60Hz
Full Load Current: 13A (with extractor connected)
0.4A (Nominal)
61010 Stability test results:

Unit: Spark arrestor Power module

Hertz: 50/60Hz
Full Load Current: 13A (with extractor connected)
0.4A (Nominal)

Size:

	Metric (mm)	Imperial (inches)
Height / With Beacon	665 / 870	26.1 / 34.3
Depth	530	20.87
Width	420	16.54

Environmental operating range *(The unit is for indoor use):*

Temperature: +5°C to + 40°C
Humidity: Max 80% RH up to 31°C
Max 50% RH at 40°C
Pollution degree: 2
Supply voltage fluctuations: ±10 %
Maximum altitude for operation: <2000 m

Power module socket colour coding:

Blue: 230V (32A max)
Red: 415V (3 Phase) (32A max)
Yellow: 110V (32A max)

Contact Information

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Email. sales@bofaamericas.com



A WORLD LEADER IN FUME
EXTRACTION TECHNOLOGY

E C DECLARATION OF INCORPORATION

Manufacturer: BOFA International Ltd

Address: 21-22 Balena Close
Creekmoor Ind Estate
Poole
Dorset, BH17 7DX

Country of origin: England, United Kingdom

Product: Spark Arrestor V2
Serial Number:

The named product is in conformity with the requirements of the following European Standards:

BS EN ISO 12100:2010 Safety of machinery- General principles
BS EN ISO 19353:2019 Safety of machinery-Fire prevention and fire protection

Note that partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with appropriate Directive provisions.

Technical File compilation:
Paul Beeson – Product Certifications 10th April 2019
BOFA International Ltd – Balena Close Poole – BH17 7DX

Tony Lockwood, Director
For and on behalf of BOFA International Ltd



Local Exhaust Ventilation System - **Inspection Record**

Health & Safety at Work Act 1974 - Control of Substances Hazardous to Health - Regulation 9 (2002)
Thorough Examination and Testing of Local Exhaust Ventilation Systems

Company:	System Designation:	System Installation Date:
Designated Person:		

Inspection and Maintenance Schedules

1. Daily checks
2. Weekly inspection of process enclosure, extract offtake, hose/ducting and extract/filtration unit.
3. Monthly inspection of process enclosure, extract offtake, hose/ducting and extract/filtration unit.
4. Yearly inspection / testing

**Process enclosure, extract offtake(s), hose/ducting and extract/filtration unit.
Inspection and Maintenance Record**

1. Daily inspection

Inspection of the process to ensure extract devices/nozzles/enclosures/hoses are in place and correctly positioned. Examination of the extractor to ensure it is running. This to be carried out by the operator. Daily inspection not recorded.

2. Weekly Inspection

Weekly inspection by supervisor of physical condition of extract devices/nozzles/enclosures/hoses and extraction unit for damage, change (parts added or removed) and correct operation etc. Check also that daily inspections have been completed. Tick boxes to confirm system ok / change. Add details of any changes. Report changes to Engineering Manager. Record any remedial actions taken.					
Week number	Date	System ok	System Change	Details of change / repairs etc	Initial
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

**Process enclosure, extract offtake, hose/ducting and extract/filtration unit.
Inspection and Maintenance Record**

2. Weekly Inspection

. . . . Continued

Weekly inspection by supervisor of physical condition of extract devices/nozzles/enclosures/hoses and extraction unit for damage, change (parts added or removed) and correct operation etc. Check also that daily inspections have been completed. Tick boxes to confirm system ok / change. Add details of any changes. Report changes to Engineering Manager. Record any remedial actions taken.

Week number	Date	System ok	System Change	Details of change / repairs etc	Initial
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					

**Process enclosure, extract offtake, hose/ducting and extract/filtration unit.
Inspection and Maintenance Record**

3. Monthly Inspection

In addition to weekly checks. Disconnect hoses and check for blockage and smooth operation of fan, signs of dust or vapour / gas / odour carry over. Tick boxes to confirm system ok / change. Add details of any changes. Report changes to Engineering Manager. Record any remedial actions taken.

Month number	Date	System ok	System Change	Details of change / repairs etc	Initial
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

4. Yearly Inspection

Annual service To include all regular checks together with inspection of filter condition and replacement where necessary, motor and electrical checks,	Comments	Signature of Supervisor : Date:
Annual Thorough Inspection and Testing of LEV System in accordance with C.O.S.H.H. Regulation 9 (max interval 14 months) including reporting.	Comments	Signature of Supervisor : Date: