



A Donaldson Company

A WORLD LEADER IN FUME
EXTRACTION TECHNOLOGY

AD 350 CU

USER MANUAL



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Overview

1 01

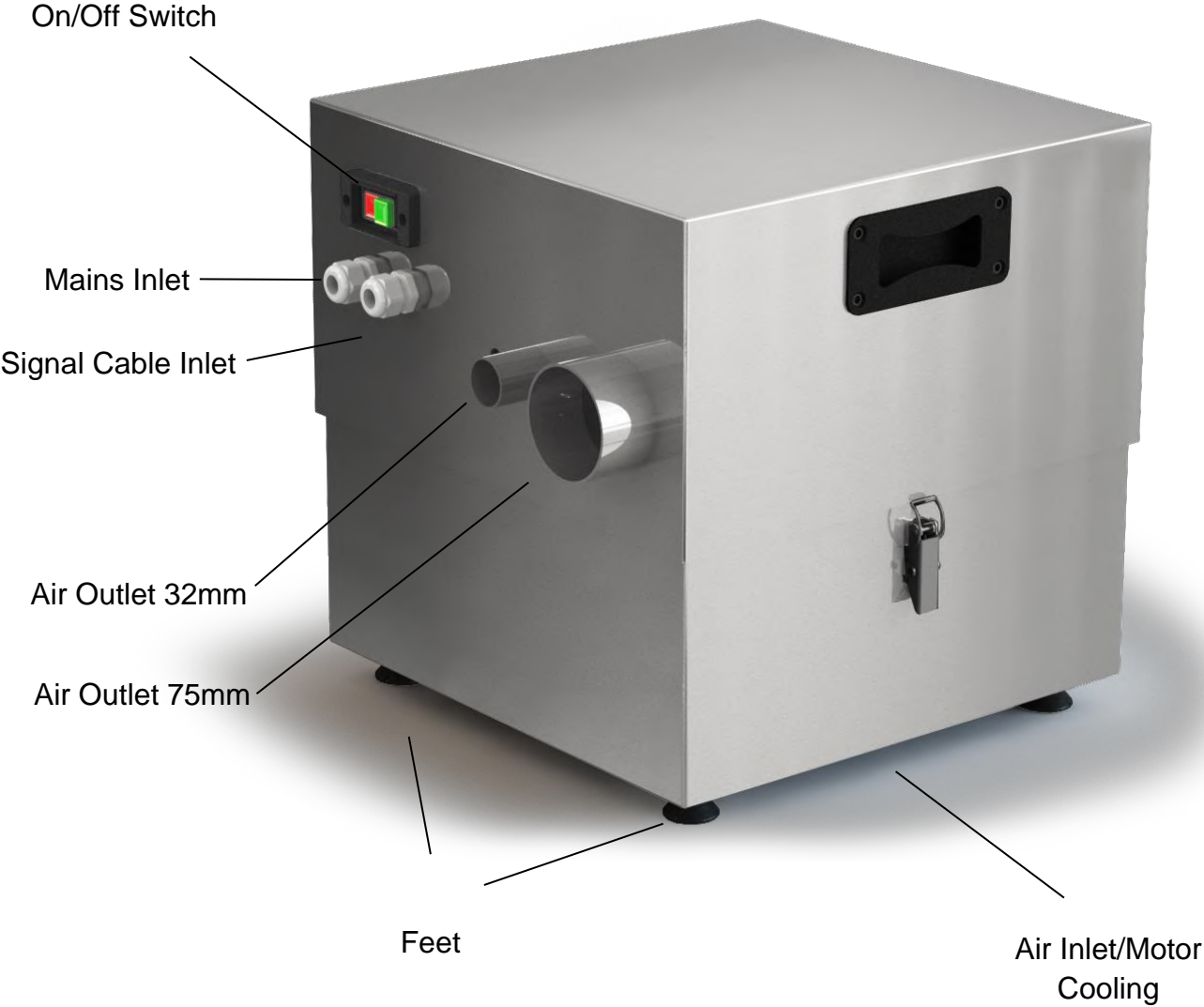


Filter Tray

Door Catches

Overview

1 02



Safety Instructions



Important safety notes

Concerning symbols used on the 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 (crippling) 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.

Electrical 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 415/230/115 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 pump/motor 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 filter within the system may contain a mixture of particulates, some of which may be sub-micron size. When the used filters are moved it may agitate some of this particulate, which could get into the breathing zone and eyes of the operative.

Caution: When changing used filters 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. 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 unit or if it displays a fault code, please contact us:

- 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.

Do Not Cover Label



Meaning: Do not cover any louvers or holes adjacent to the label.

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 system details in the space provided. The serial number is on the rating label located on the side/rear of the unit.

Serial Number:

A	D	3	5	0	C	U	-												

Serial Number Label

MODEL:AD350 CU
 Serial No:AD350 CU - 00047
 230V 50Hz 1.9A
WARNING
 THIS EQUIPMENT MUST BE EARTHED
 YEAR OF MANUFACTURE 01/2016



BOFA International Ltd
 Ricks, Chester, UK. CH17 7DX
 Tel: +44(0)1244 694444
 www.bofa.co.uk

**example of label*

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

- Company name, Address & Contact number
- Unit 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.

This unit should not be used on processes where sparks could occur, 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

Packaging Removal & 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 unit.

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.
Ensure that 500 mm space is available around any vented panels on the unit to ensure adequate airflow.
2. Check the filter is located in its correct position before reclosing the door.



Caution

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



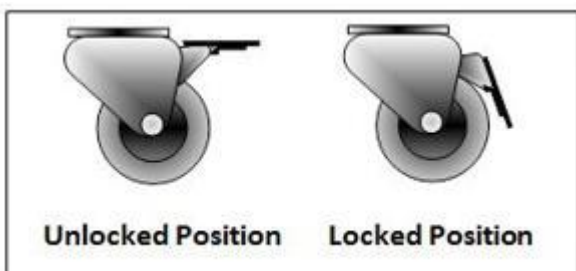
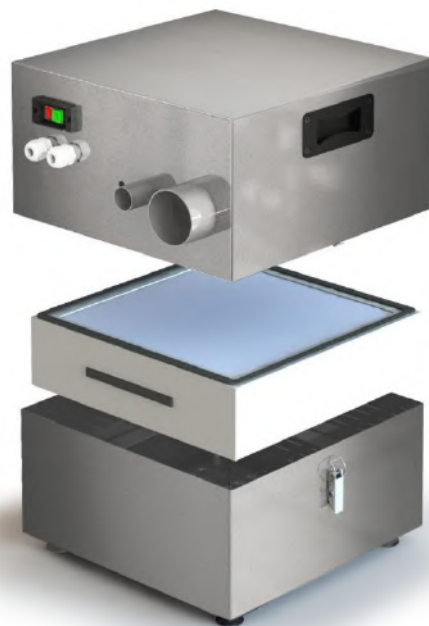
Caution

Do not block or cover the 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.



Installation

4 01

Connection to Power Supply

Please follow section 8 of the manual when selecting the power supply outlet for the system, ensure the power supply is suitable before connecting the system.

Check the Integrity of the electrical power cable, if the supply cord is damaged the unit should not be connected to the mains. The supply cord should only be replaced by a BOFA engineer as an electrical safety test may be required after replacement.

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

If your unit system was ordered with any optional extras please read section 4.03 before the power connection is made as additional connections may be required before power is connected to the system.

Connect the power cable to an isolated electrical supply.

The mains socket should be installed near the unit it 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.

Installation

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Optional added features

The unit can be configured to suit customer specification. These optional extras would be discussed, arranged and installed prior to delivery.

(If unsure what features your system is equipped with please contact the seller with the unit serial number, (Refer to section 2 for location) who will be able to advise what specification has been supplied.

Remote Stop/Start feature

Enables the unit to be remotely turned On / Off via an external signal.

Note: Care must be taken to ensure that the system is correctly wired in order for the unit to function correctly.

DC Voltage input

This configuration requires the Black & Red cores of the signal cable (Refer to section 1 for location) to be connected to a known and tested DC power supply, in order to start the unit.

The operating voltage for this signal is 24VDC. Only this voltage should be connected. Voltages connected outside of this range may cause irreversible damage to the relay.

Red cable = V+

Black cable = V-

When the system is provided with the correct DC voltage the motor will start, when the DC voltage is removed the motor will slow down and come to a stop.

The unit will need to be turned on (See section 5 for turning the unit on) in order for this feature to operate.

Override

Enables the unit to operate fully with or without DC voltage input.

The override feature can be toggled On / Off by a switch mounted on the internal motor access panel (see below for switch location)

Switch in "On" position

In this position the system will require a start signal (either Voltage input or Volt free, depending on the requested specification) to enable the motor within the unit.

Switch in "Off" position

In this position the motor will run without the requirement for an external start signal. This feature is useful for engineers

carrying out works/ tests on the unit without the need for the laser / auxiliary signal being present.



Filter Blocked / System Fail Signal

With this option the system will output a signal to alert the user when the filters are blocked.

This feature will not directly stop the unit from running correctly, but if fitted this feature should be terminated correctly before power is applied to the system.

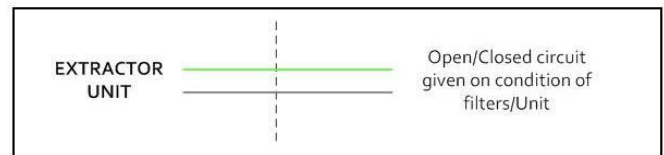
Connection specification

This signal is available via the Green and White cores of the signal cable. The system will provide a volt free Open / Closed signal that can be connected to an external interface, beacon or warning device following the specification below.

- **Maximum input voltage: 24V AC**
- **Maximum current load: 3A @ AC**
OR
- **Maximum input voltage: 24V DC**
- **Maximum input load: 3A @ DC**

Filter Signal

When the filters become blocked the connection between the Green & White cables will become "Open"
When the system is running normally the connection between the Green & White cables will become "Closed"



System OK Signal

When the motor is running the system will provide a volt free Open / Closed signal that can be connected to an external interface, beacon or warning device following the specification below.

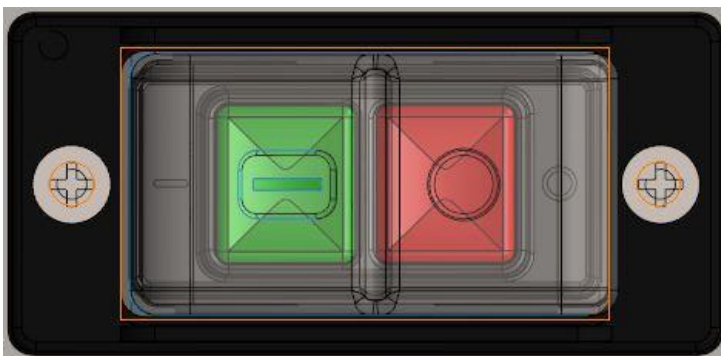
- **Maximum input voltage: 24V AC**
- **Maximum current load: 3A @ AC**
OR
- **Maximum input voltage: 24V DC**
- **Maximum input load: 3A @ DC**

Operation

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Turning the unit On

The main isolation switch must be switched to the “On” position (Refer to section 1 for switch location) by depressing the green side of the switch. To turn off the unit the red side of the switch needs to be depressed.



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 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

The cooling inlets and outlets should be cleaned once a year to prevent build-up of dust and overheating of the unit.

Filter Information

A log of filter changes should be maintained by the user.

The filters require attention when the filter condition signal indicates or when the unit no longer supplies cooling air efficiently.

It is recommended that a spare set of filters are kept on site to avoid prolonged unit unavailability. Part numbers for replacement filters can be found on the filters fitted in your system.

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

Maintenance



Refer to section 2 02 for PPE requirements.

Maintenance only consists of replacing the filter. Replace the filter annually or when the host system trips out because of over temperature. A log of filter changes should be maintained.

Filter replacement

CAUTION: WHEN CHANGING USED FILTERS ALWAYS WEAR MASK, SAFETY GLASSES AND GLOVES.

1. Isolate the electrical supply to the system.
2. Undo the clips on either side of the unit.
3. The top section should be lifted away and placed carefully to one side.
4. Lift the dirty filter out from the bottom section and dispose of it.
5. Place a new filter in the base of the unit.
6. Refit the top section of the unit and fasten the clips.
7. Reconnect the power supply.

Replacement Parts



Consumable Spares

The system contains a Deep pleat Pre Filter. This filter should be replaced when instructed to do so by the system (see section 6 for replacing the filters)

To maintain performance it is important that the filters are replaced with identical BOFA filters. To re-order please refer to the Filter number printed on the filter installed in your unit.

Maintenance Protocol

Users can record changes in filter change intervals on the table below.

Unit Serial Number:	
Pre Filter	
Date	Engineer

Filter disposal

The Pre Filter is manufactured from non-toxic materials. Filters are not re-usable, cleaning used filters is not recommended. The method of disposal of the used filters depends on the material deposited on them.

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

System Specifications

Wiring schematic available upon request
Spares parts list available upon request



Unit: AD 350 CU

Capacity: 350 m³/hr (206cfm)
Weight: 18.5 kg (40.7lbs)
Motor: Centrifugal Fan
Electrical supply: 115V / 230V
Hertz: 50/60Hz
Full Load Current: 115V: 3,5A / 230V: 2,0A
No of phases: 1
Noise Level: Below 68dB
61010 Stability test results:

Size:

	Metric (mm)	Imperial (inches)
Height	595	23.42
Depth	380	14.9
Width	380	14.9

Filters:

Filter Type	Surface area	Efficiency
Deep Pleat Pre Filter	6.0m ²	95% @ 0.9 microns

Environmental operating range:

Temperature: +5°C to + 40°C
Humidity: Max 80% RH up to 31°C
Max 50% RH at 40°C



Contact Information

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A WORLD LEADER IN FUME
EXTRACTION TECHNOLOGY

E C DECLARATION OF CONFORMITY

Manufacturer: BOFA International Ltd,
Address: 21-22 Balena Close,
Creekmoor Ind Estate,
Poole, Dorset.
BH17 7DX.

Country of origin: England, United Kingdom

Product: Fume Extraction Unit
AD 350 CU

Serial Number:

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

2006/42/EC Machinery Directive
2014/30/EU EMC Directive
2011/65/EU RoHS Directive

Conformity with the requirements of the directives is testified by adherence to the relevant parts of the following harmonised standards:

BS EN 60204-1:2018	Safety of machinery electrical equipment
BS EN ISO 12100:2010	Risk assessment and risk reduction
BS EN 61000-3-2:2014	EMC limits for Harmonics
BS EN 61000-3-3:2013	EMC limits for Voltage fluctuations & flicker
BS EN 61000-6-2:2005	EMC immunity requirements
BS EN 61000-6-4:2011	EMC emission requirements

Paul Beeson – Product Certifications
BOFA International Ltd – Balena Close Poole BH17 7DX

Tony Lockwood, Managing Director
For and on behalf of BOFA International Ltd
1st Jan 2020





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

<p>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.</p>					
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

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