

# BOFA

F U M E E L I M I N A T I O N



FOR A CLEANER,  
HEALTHIER  
WORKING  
ENVIRONMENT





F U M E E L I M I N A T I O N

Being the first company to introduce comprehensive filter technology into the UK, BOFA INTERNATIONAL Ltd has unrivalled expertise in the field of fume elimination and control.



We pride ourselves on having the widest range of systems available, together with the technical

knowledge to modify and develop turnkey solutions for the most demanding and diverse applications.

Much of our design criteria focus on our customers needs for simple, efficient and cost effective equipment with the product quality and reliability for many years trouble free operation.

Protecting company personnel and the environment is our objective. For this reason many of our customers require our product to achieve ISO 14001 certification, or to conform to the latest COSHH (Control of Substances Hazardous to Health) regulations.

Free site surveys, 24 hour service and maintenance support, together with COSHH re-certification are part of the many services available

Dave Cornell  
Chairman

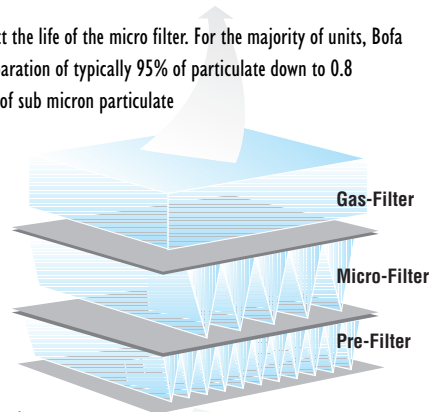


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All Bofa Extraction Systems incorporate a progressive series of filters designed specifically to maximise life for both particulate and gas capture.

**PRE-FILTER**

The pre filter is designed solely to protect the life of the micro filter. For the majority of units, Bofa use a pleated synthetic media with a separation of typically 95% of particulate down to 0.8 microns. In cases where larger amounts of sub micron particulate are generated, a higher efficiency filter can be fitted or stand alone Bag filter can be installed to give greater life to the pre filter and ensure adequate protection to the main filter.



**MICRO FILTER**

Bofa Micro Filters incorporate a series of bonded webbing between the pleats. This feature not only ensures even spacing between each pleat, but also alleviates the possibility of airflow vibration or collapse through pressure build up during gradual filter saturation. Each Micro filter is designed to withstand up to 6 times the maximum operating pressure for its designated unit, with filter efficiency of 99.997% down to 0.3 microns and 95% as small as 0.1 microns.

**BACTIGUARD**

**AIR FILTERS**

Bactiguard air filters, used in various grades of pre and micro media's have been proven in independent testing to eradicate a wide range of micro-organisms.

A list of the micro-organisms used in testing can be supplied on request. Most common types of bacteria referred to are MRSA, Salmonella and E.coli. On fungi, the most common referred to is aspergillus.

**GAS FILTER**

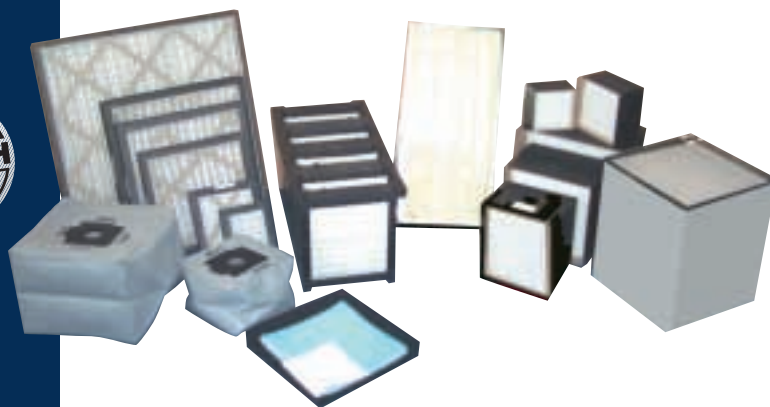
The standard gas filter is made up of a 50/50 mix of Activated Aluminium Potassium Permanganate and Activated Carbon. The media neutralises a broad base of chemical and VOC (Volatile Organic Compound) pollutants. A comprehensive range of specialised filters together with electronic gas sensing is available for more demanding or diverse applications.

**See Unit Options page for more details.**

All filters are produced in accordance with ISO9002 with micron filtration complying with BS3928. A certificate of conformity for each filter is available upon request.

**PUMP TECHNOLOGY**

The pump is the heart of the unit and as such, any compromise on quality will have an adverse effect on performance and long term reliability. Bofa use only the highest quality pumps and motors in all their units. All pumps are individually matched to the motors and dynamically balanced accordingly. Each assembly is produced in accordance with ISO 9002 and CE marked.



# High Volume Extraction

This range of High Volume systems accommodate the removal and filtration of a large air mass from the environment. When used in conjunction with our extensive range of arms, hoods, cabinets and flat bed extraction trays, hazardous processes can be undertaken in comfort and safety. All systems have a built in silencer that achieve very low noise levels.

## SYSTEM 200

### Single Arm High Volume Extraction Unit

Designed to extract fumes for one operator.

A compact unit that comes complete with:

- 50mm ESD stay put extraction arm
  - Installation flex
  - Table bracket
  - Bofa's unique flip top flush sealing mounting plate

- Solid carbon block filter
- Filter blocked indicator

This unit is ideal for factories with changing demand which result in production layout changes. This system is fully comprehensive with an airflow of 90m<sup>3</sup>/h and 99.997% HEPA filtration.

#### UNIT SPECIFICATIONS

	Dimensions mm H x D x W	Weight Kg	Flow Rate 4.5mm I/D Hose	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 200</b>	380 x 260 x 260	7	90m <sup>3</sup> /h	Radial Ventilator	0.058	230 IpH	48	-	-	99.997%

Down to 0.3 micron DOP



## System 250

### Dual Arm High Volume Extraction Unit

The system 250 "Dual" extraction unit is purpose built to protect two operators who are located either next to or opposite each other.

This compact unit that comes complete with:

- Two 50mm ESD stay put extraction arms
- Installation flex
- Table bracket
- Bofa's unique flip top flush sealing mounting plate
- Solid carbon block filter
- Filter blocked indicator
- 99.997% HEPA filtration

#### UNIT SPECIFICATIONS

	Dimensions mm H x D x W	Weight Kg	Flow Rate 4.5mm I/D Hose	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 250</b>	480 x 260 x 280	10	180m <sup>3</sup> /h	Radial Ventilator	0.12	230 IpH	55	75	6	99.997%

Down to 0.3 micron DOP

# High Volume Extraction



Bofa's centralised range of high volume extraction systems offer protection against harmful fumes from 4 – 55 operators. All units incorporate 3 stage filtration, filter condition gauge and built in silencing.

## SYSTEM 400

### High Volume Unit with Adjustable Flow Control

A compact, versatile and extremely efficient High Volume Extraction System that has been designed to incorporate 'variable air flow control'. Adjustment is made easy by the simple turn of a knob on the unit to facilitate single to multiple user applications.

Built in silencer ensures low noise levels to the maximum flow control adjustment.

Maximum number of 32mm Arms	EC - 5, US - 7
Maximum number of 50mm Arms, Cowls or Down Draft Trays	EC - 3, US - 4
Maximum number of 75mm Arms, Cowls or Down Draft Trays	EC - 2, US - 2

#### UNIT SPECIFICATIONS

Unit	Dimensions mm H x D x W	Weight Kg	Air Flow (with filters fitted)	Power Unit	Voltage	Noise Level (min flow) dBA	Noise Level (max flow) dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 400</b>	446 x 376 x 376	23	340m <sup>3</sup> /h	Radial Ventilator	230 lph	49	60	75	6	99.997%

Down to 0.3 micron DOP



## SYSTEM 500, 700

### High Volume Unit

Designed specifically for portability and very low noise levels, these units can be sited directly by the operator for single user operation or as a central unit having up to forty metres of trunking connected for multi-user applications.

Systems have a built-in silencer to ensure a compact portable unit. A collar within the silencer facilitates re-direction or external venting of filtered air if required.

	System	500	700
Maximum number of 32mm Arms	EC	8	12
	US	10	12
Maximum number of 50mm Arms, Cowls or Down Draft Trays	EC	5	7
	US	6	7
Maximum number of 75mm Arms, Cowls or Down Draft Trays	EC	2	3
	US	3	3

#### UNIT SPECIFICATIONS

Unit	Dimensions mm H x D x W	Weight Kg	Air Flow (with filters fitted)	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 500</b>	620 x 500 x 400	40	350m <sup>3</sup> /h	Radial Ventilator	0.37	230 lph	58	75	40	99.997%
<b>System 700</b>	620 x 500 x 400	40	510m <sup>3</sup> /h	Radial Ventilator	230 lph	49	64	75	40	99.997%

Down to 0.3 micron DOP

## SYSTEM 1000, 2500, 3500, 4500

### High Volume Centralised Extraction Units

	System	1000	2500	3500	4500
Maximum number of 32mm Arms	EC	14	18	25	55
	US	15	18	25	55
Maximum number of 50mm Arms, Cowls or Down Draft Trays	EC	10	16	20	40
	US	12	16	25	40
Maximum number of 75mm Arms, Cowls or Down Draft Trays	EC	5	8	12	20
	US	6	8	12	20

#### UNIT SPECIFICATIONS

Unit DOP	Dimensions mm H x D x W	Weight Kg	Air Flow (with filters fitted)	Power Unit	Rated Output kW	Voltage	Noise Level (min flow) dBA	Noise Level (max flow) dBA	Duct Size mm	Filter Efficiency 0.3 micron
<b>System 1000</b>	845 x 645 x 530	62	1000m <sup>3</sup> /h	Radial Ventilator	1.1	230 lph	54	-	125	99.997%
<b>System 2500*</b>	845 x 645 x 530	75	1500m <sup>3</sup> /h	Radial Ventilator	2.2	400 3ph	48	60	125	99.997%
<b>System 3500*</b>	1200 x 740 x 600	100	2300m <sup>3</sup> /h	Radial Ventilator	5.5	400 3ph	50	64	125	99.997%
<b>System 4500*</b>	1350 x 1080 x 710	130	3000m <sup>3</sup> /h	Radial Ventilator	7.5	400 3ph	52	66	125	99.997%

\*Adjustable Flow Control  
Max duct run supplied on application.



# High Volume Entry level Units



These compact low cost systems are capable of generating high air flow rates from a range of bench top attachments.

Units can be positioned comfortably under the bench with a simple installation kit to connect to the most suitable extraction accessory.

## SYSTEM 300E

### High Volume Entry Level Unit

A cost effective unit capable of extracting fumes, with optimal flow rates, for up to two soldering stations.

Maximum number of 50mm Arms, Cowl or Down Draft Trays	EC - 2, US - 2
Maximum number of 75mm Arms, Cowl or Down Draft Trays	EC - 2, US - 2

#### UNIT SPECIFICATIONS

Unit	Dimensions mm H x D x W	Weight Kg	Air Flow (with filters fitted)	Power Unit	Noise Level Voltage	dBA	Filter Efficiency
<b>System 300</b>	450 x 300 x 300	15	320m <sup>3</sup> /h	Radial Blower	230 lph	52	95%

Down to 0.5 micron DOP

#### Options:

- Variable speed/flow control available
- High efficiency filters available (up to 99.997) DOP

## SYSTEM 350E

### High Volume Entry Level Unit

A compact low cost system capable of generating high air flow rates having up to six metres of trunking connected to the system.

Maximum number of 32mm Arms	EC - 7, US - 7
Maximum number of 50mm Arms, Cowl or Down Draft Trays	EC - 5, US - 5
Maximum number of 75mm Arms, Cowl or Down Draft Trays	EC - 4, US - 4

#### UNIT SPECIFICATIONS

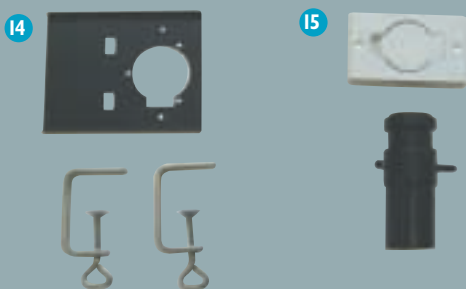
Unit	Dimensions mm H x D x W	Weight Kg	Air Flow (with filters fitted)	Power Unit	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 350E</b>	446 x 376 x 376	23	600m <sup>3</sup> /h	Radial Blower	230 lph	60	75	6	95%

Down to 0.5 micron DOP  
Higher efficiency filters available

#### Options

- Variable speed/flow control available
- A range of installation kits to suit accessories required
- High efficiency filters available (up to 99.997) DOP

# High Volume Accessories



Select the type and quantity of arms/cowls or down draft trays required. 50mm diameter are the norm for most operations. 32mm diameter arms are for small working areas with light soldering (e.g. when using mini irons), whilst 75mm arms are for heavy duty soldering.

The arms are mounted through the bench using BOFA's unique self sealing sprung flip top connector (except 75mm) or onto the bench using a mounting bracket.

The cowls provide a working area of up to 250mm (10") out from the front of the cowl. An added advantage is that the iron stand can be positioned at one end of the cowl to capture the residual fume when the iron is replaced after use. The down draft tray is ideal where space is at a premium. The workpiece is positioned on the tray and all fume generated is pulled down through the matrix of holes into the extraction unit.

<b>1</b>	<b>SPAF32ESD-P</b>	32mm ESD Stay Put Arm with Funnel
<b>2</b>	<b>SPAN32ESD-P</b>	32mm ESD Stay Put Arm with nozzle
<b>3</b>	<b>SPAF50ESD-P</b>	50mm ESD Stay Put Arm with Funnel
<b>4</b>	<b>SPAN50ESD-P</b>	50mm ESD Stay Put Arm with nozzle
<b>5</b>	<b>SPAS50ESD-P</b>	50mm ESD Stay Put Arm with slot
<b>6</b>	<b>SPA-300-ESD-P</b>	75mm ESD Stay Put Arm unit mounted
<b>7</b>	<b>SPAF75ESD-P</b>	75mm ESD Stay Put Arm with Bench Bracket
<b>8</b>	<b>CCC50ESD</b>	50mm ESD Cowl
<b>9</b>	<b>CCC50</b>	50mm Clear Cowl
<b>10</b>	<b>CCC75ESD</b>	75mm ESD Cowl
<b>11</b>	<b>CCC75</b>	75mm Clear Cowl
	<b>CCC75ESDL</b>	75mm ESD Cowl with light (not shown)
<b>12</b>	<b>DDT50ESD</b>	50mm ESD Down Draft Tray
<b>13</b>	<b>DDT75ESD</b>	75mm ESD Down Draft Tray
<b>14</b>	<b>TB50</b>	Table bracket for 32mm and 50mm
<b>17</b>	<b>FMP50ESD</b>	Automatic Flush System Seal for 32mm and 50mm

# Tip Extraction

These high vacuum units are designed to extract and filter fumes and debris through small bore hoses and attachments. Ideally suited for soldering iron tip extraction, vac pens, flexi fume arms and any application requiring close proximity micro extraction.

## SYSTEM 1, 3, VT2 RANGE

### High Vacuum (Tip) Extraction Units

Maximum number of Soldering Irons			
System	1	3	VT2 (Air Driven Unit)
EC & US	1	3	2

The smallest in our range of BOFA High Vacuum Extraction Systems. Designed specifically for portability and extremely low noise levels.

#### UNIT SPECIFICATIONS

	Dimensions mm H x D x W	Weight Kg	Flow Rate 4.5mm I/D Hose	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 1</b>	220 x 171 x 171	5	22-24 L/M	Linear Pump	0.06	230 1ph	<48	-	-	99.997
<b>System 3</b>	285 x 270 x 195	12	22-30 L/M	Carbon Vane Pump	0.12	230 1ph	<40	32	10	99.997
Down to 0.3 micron DOP										
	Dimensions mm H x D x W	Weight Kg	Flow Rate 4.5mm I/D Hose	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Air requirements Pressure	Filter Flow	
<b>System VT2</b>	170 x 150 x 170	1	22-30 L/M	Air Ejector	0.12	230 1ph	<39	6 Bar	0.6 NI/S	

## SYSTEM 15 RANGE

### High Vacuum (Tip) Extraction Units

Maximum number of Soldering Irons		Maximum number of Flexi Fume Arms	
EC - 15	US - 25	EC - 4	US - 5

The medium range of BOFA High Vacuum Extraction Systems. Built-in silencer for extremely low noise levels ensures a compact portable unit.

#### UNIT SPECIFICATIONS

	Dimensions mm H x D x W	Weight Kg	Flow Rate 4.5mm I/D Hose	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 15</b>	560 x 330 x 330	28.5	22-30 L/M	Side Channel Blower	0.37	230 1ph	<50	50	200	99.997
Down to 0.3 micron DOP										

## SYSTEM 30, 60, 100 RANGE

### High Vacuum (Tip) Centralised Extraction Units

Due to the high concentration of debris generated from up to 100 operators, these systems have been designed to keep the unit compact but still utilise a comprehensive filter system. With this in mind BOFA have developed a design that incorporates a facility for retaining a high concentration of particulate within the filter enclosure.

All systems have a built-in silencer which projects the filtered air directly upwards. This is considered to be the best method of evacuation with as little disturbance to ground level dust as possible. Each silencer has a collar which facilitates re-direction or external venting of filtered air if required.

Maximum number of Soldering Irons			Maximum number of Flexi Fume Arms		
System 30	EC - 30	US - 50	System 30	EC - 6	US - 8
System 60	EC - 60	US - 100	System 60	EC - 12	US - 20
System 100	EC - 100	US - 150	System 100	EC - 20	US - 30

#### UNIT SPECIFICATIONS

	Dimensions mm H x D x W	Weight Kg	Flow Rate 4.5mm I/D Hose	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Duct Size mm	Duct Run mtrs	Filter Efficiency
<b>System 30</b>	500 x 550 x 350	30	22-30 L/M	Side Channel Blower	0.8	230 1ph	<66	50	400	99.997
<b>System 60</b>	615 x 830 x 475	50	22-30 L/M	Side Channel Blower	2.2	380/415, 3 phase	<66	50	800	99.997
<b>System 100</b>	615 x 830 x 475	52	22-30 L/M	Side Channel Blower	2.2	380/415, 3 phase	<66	50	1000	99.997
Down to 0.3 micron DOP										

## ACCESSORIES

#### INSTALLATION KITS

INSKT3 - System 3

INSKT8 - System 8

INSKT15 - System 15

#### A FFA12/600

Flexi Fume Arm (inclusive of shut off valve). 12mm x 600mm through bench kit

#### A FFA12/600B

Flexi Fume Arm (inclusive of shut off valve). 12mm x 600mm with bench mounting bracket

#### B METCO1

Metcal Iron Conversion Kit for 002/SP200 iron  
Iron connector, ESD silicon tube, fasteners and cleaning brush.

#### C WAK

Weller Mini Iron Conversion Kit Iron clip on kit, stainless steel tube, ESD silicon tube, fasteners, cleaning brush.

#### D UAK

Adcola, Weller, Pace + (fits most other irons)  
Iron clip on kit, stainless steel tube, ESD silicon tube, cleaning brush, fasteners and holder.

#### E ERSA1

ERSA Tip Tool Iron connector, stainless steel tube, ESD silicon tube, fasteners, cleaning brush.

#### F ERSA2

ERSA Micron Tool Iron connector, stainless steel tube, ESD silicon tube, fasteners, cleaning brush.

#### G ERSA3

ERSA Ergo Tool, Tech Tool, Power Tool Iron connector, stainless steel tube, ESD silicon tube, fasteners, cleaning brush.

#### H HAKO I

Hakko Iron connector, stainless steel tube, ESD silicon tube, fasteners, cleaning brush.

#### I JBC1

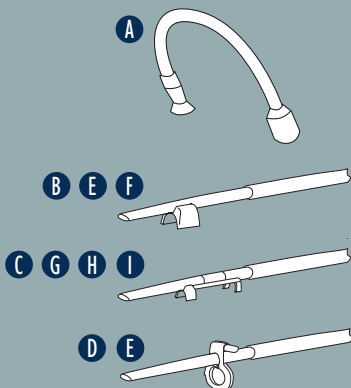
JBC Advanced 2010/2045 Iron connectors, ESD silicon tube, fasteners.

#### VOC

VOC Monitoring Sensor for detecting volatile organic compounds.

#### WSF

Metcal Universal Iron Holder Holder for 002 and SP200 irons.



# Machine Soldering



## SYSTEM - M250, M500, M700, MI000, M2500, M3500, M4500

From small bench top to centralised high through-put machines, BOFA have a comprehensive range of systems for the light to heavy duty users. The BOFA range of machine soldering extraction and filtration systems can be fully integrated with your machinery so the system will start and stop automatically. Other options such as a fail-safe signal for system failure and filter replacement can also be fitted.

### UNIT SPECIFICATIONS

Unit	Dimensions mm H x D x W	Weight Kg	Flow Rate M3/Hr	Power Unit	Rated Output kW	Voltage	Filter Efficiency % @ 1µm
System M250	470 x 300 x 300	25	210	Centrifugal Fan	0.12	110/230	99.997
System M500	620 x 500 x 400	40	350	Centrifugal Fan	0.37	110/230	99.997
System M700	620 x 500 x 400	40	510	Centrifugal Fan	0.37	110/230	99.997
System MI000	845 x 640 x 530	62	1000	Centrifugal Fan	1.1	110/230	99.997
System M2500	845 x 640 x 530	75	1500	Centrifugal Fan	2.2	400 3ph	99.997
System M3500	1200 x 740 x 600	100	2300	Centrifugal Fan	5.5	400 3ph	99.997
System M4500	1350 x 1080 x 710	130	3000	Centrifugal Fan	7.5	400 3ph	99.997

### UNIT OPTIONS

	24v Stop/Start Signal	Dual Voltage Frequency	Flow Control	Auto Flow Control	Filter Laser Change Signal	24v System Failure Signal	Gas Monitoring	Particulate Monitoring	Filter Gauge
M250	•	•	•	•	•	•	•	•	✓
M500	•	•	•	•	•	•	•	•	✓
M700	•	•	✓	•	•	•	•	•	✓
MI000	•	•	•	•	•	•	•	•	✓
M2500	•	•	✓	•	•	•	•	•	✓
M3500	•	•	✓	•	•	•	•	•	✓
M4500	•	•	✓	•	•	•	•	•	✓

• Optional    ✓ Standard    • Unavailable

# Medical and Pharmaceutical Industry



**Many processes in the medical and pharmaceutical industry produce harmful chemical fumes, dust and bacteria that can be removed and retained safely. BOFA produce a wide range of corrosion resistant units for wipe clean or hose down sterile conditions.**

Our mini pleat HEPA or higher efficiency ULPA filter (99.999 to 0.1 micron) can be supplied with a specifically formulated anti-bacterial coating to prevent the passage of micro constituents to virus size. Chemical and gas filter media's can be combined to neutralise VOC's and other chemical substances.

#### Typical Applications

- Thermal Surgery (Laser or hot tool)
- Pill and capsule production
- Chemical Formulation
- Marking (Date and Batch Coding)
- Research and Development
- Laboratory Work
- Units designed for hazardous powder handling in laboratories

Many of our systems are designed for specific applications. In particular the OEM market, so please call our technical helpline for assistance.



Bactiguard air filters, used in various grades of pre and micro media's have been proven in independent testing to eradicate a wide range of micro-organisms.

A list of the micro-organisms used in testing can be supplied on request. Most common types of bacteria referred to are MRSA, Salmonella and E.coli. On fungi, the most common referred to aspergillus.



# Fabrication and Machine Shop



**Bofa have extraction and purification systems that integrate perfectly with fabrication and machine shop environments. For welding, PCB cutting, and other high fume or particulate generating operations. With either portable or fully installed centralised systems, hazardous fumes or materials can be removed and filtered efficiently and economically.**

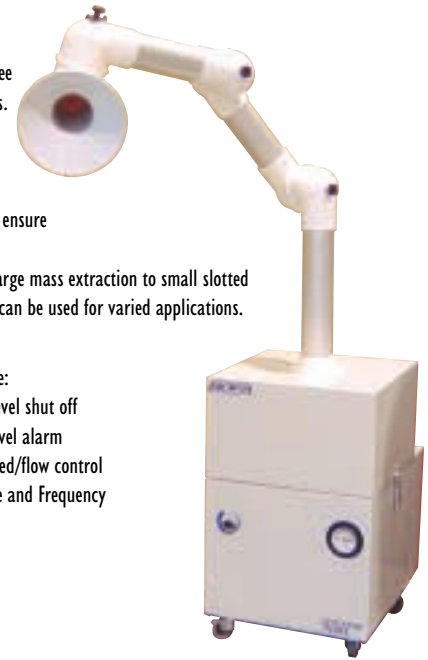
For Centralised units, control valves at each extraction point ensure maximum utilisation of the system, with independent separation filters to collect heavy materials and fluids.

Some designs incorporate separation matched with a three stage coalescing pre-filter for containment of all fluids.

Gasses and particulate are then separated to 99.997% DOP.

Automatic filter cleaning facilitates maximum performance with pump management systems to ensure economical running costs.

A range of accessories from telescopic arms for large mass extraction to small slotted nozzles, funnels and fish tail stay put assemblies can be used for varied applications.



Mobile welding/ grinding unit

**Applications:**

- Welding
- PCB Cutting and Splitting
- Routing
- Grinding
- Etching
- Drilling
- Swarf Removal
- Lathing

**Options include:**

- Auto fluid level shut off
- Gas/Fluid level alarm
- Variable speed/flow control
- Dual Voltage and Frequency

## SYSTEM 25, I250

### High Volume and High Vacuum Unit

**Compact system designed specifically for applications where fluids become part of the extraction and filtration process.**

**The unit incorporates a cyclone separator matched with a three stage coalescing pre-filter for containment of all fluids. Gasses and particulates are then separated to Class 100 clean room standard 99.997% DOP.**

**All systems have a built-in silencer with a collar to facilitate re-direction or external venting of filtered air if required.**

**UNIT SPECIFICATIONS**

	Dimensions mm H x D x W	Weight Kg	Maximum Operating Vacuum	Power Unit	Rated Output kW	Voltage	Noise Level dBA	Fluid Separation capacity	Filter Efficiency
<b>System 25 (UK)</b>	800 x 533 x 533	58	160MB	Radial Blower	0.8	230 lph	<58	22 Litres	99.997
<b>System 25 (US)</b>	800 x 533 x 533	58	160MB	Radial Blower	0.9	115 lph	<62	5 Gallons	99.997
<b>System I250 (UK)</b>	800 x 533 x 533	60	590cfm	Radial Blower	0.75	230 lph	<58	22 Litres	99.997
<b>System I250 (US)</b>	800 x 533 x 533	60	400cfm	Radial Blower	1.1	115 lph	<62	5 Gallons	99.997

Down to 0.3 micron DOP

**Applications...**

- Cutting fluid mist
- Wet fumes
- Substrate retention and fume extraction
- Fluid, particulate, gas mixture

**Options...**

- Auto fluid level shut-off
- Gas/Fluid level alarm
- Computer interface management system
- Variable speed/flow control



# Specialised Products



BOFA have a department dedicated to design and OEM projects. We pride ourselves on quick, low cost turn around prototypes, and low volume or one off production units. below you will find a few OEM units that we have designed, prototyped and now in manufacture.

**A multi-purpose high vacuum system that combines the following...**

- Tip-extraction for soldering irons
- Vac pens for collecting debris
- Vacuum packaging

This unit has been specifically designed for the 'Open University' for the Beagle 2 Project, where a probe is being sent to Mars in the pursuit of life forms.



**OEM Product - Printing Industry**

**A built-in extraction unit for the cleaning cycle on screen printing machine.**



**OEM Product - Printing Industry**

**A stand alone unit with consumables trolley and tray for the printing cycle on a screen printing machine.**

**Features include...**

- 24v Stop-Start interface with printer
- Dual voltage/Frequency with voltage selector switch
- Filter condition indicator
- Vacuum/Flow adjustment
- Running light
- On/Off standby mains indicator
- Re-settable thermal trip fuses



**Atex Pending Extraction Unit**

**This unit has been designed specifically for use with welding, grinding and turning equipment in RAF aircraft hangers where aviation fuel is present.**

- Ideal for military use
- High volume extraction
- Portable

# ADVANTAGE

Introducing BOFA's new ADVANTAGE Range of Laser fume control technology incorporating our unique deep mini pleat 2 stage pre filtration design. Most companies see laser fume extraction as a necessary evil, required to protect both the laser optics and the health of their operatives.

With this in mind BOFA's design philosophy is: To supply a Reliable, Safe, Easy to Use and cost effective system.

## Reliability

The vacuum pump is the heart of the unit and all BOFA extractors are fitted with continuously rated pumps with a minimum life expectancy of 20,000hrs. This enables us to offer a 3 year warranty on all our laser extraction units. This warranty is backed up by our pump suppliers, giving you the added reassurance that BOFA systems are the most reliable on the market. Comprehensive training and support is also offered to both OEM's and end users.

## Safety

A full range of unit and filter monitoring options are available to suit your specific requirements (see unit data sheets). Airflow path gives maximum filter life but also ensures that all particulate is held in the filters. The design of the unit is such that the exhausted air is blown into a sealed silencer box. This totally isolates any potentially explosive fumes being blown around the electrics of the pump. This is critical even when gas sensors are used as a foolproof precaution.

## Ease of Use

Filter change is simply a case of opening the door at the rear of the unit and replacing the used filters with clean ones. Simple controls or alarms, either visual or direct to the laser indicates the need for filter replacement.

## Cost effective

### Extraction units

Much of our design criteria focus on our customers need for cost effective equipment. Our standard units offer many options for turnkey solutions. This enables the customer to only pay for the options that they require.

### Replacement Filters

Low consumable costs are a big benefit for customers choosing Laser coders over inkjet. Many extraction systems have extremely expensive replacement filters making for very high annual running costs. BOFA have the highest capacity and by far the lowest cost filters available on the market.



## ADVANTAGE 2 STAGE PRE-FILTER

All ADVANTAGE units are fitted with the new concept Deep Mini Pleat pre filter as standard. This unique filter gives a staggering 9m<sup>2</sup> of media surface without compromising the efficiency, which remains at 95%. Contaminated air enters the system through a 50mm inlet and is instantly expanded in the large pre filter chamber causing the velocity of the air to drop. The effect of this causes the larger particulate to rest gently on the surface of the filter, rather than hit it at speed and lodge within the filter media. Once the particulate has built up and got heavier, gravity breaks it away from this filter thus extending its life. Breakaway particulate is captured within the filter box.

## HEPA FILTER

All BOFA HEPA filters are manufactured by specialist filter companies to our specification. This ensures that the latest manufacturing and testing techniques are used. Each filter incorporates a series of bonded webbing between the pleats. This feature not only guarantees even spacing between each pleat, but also alleviates the possibility of airflow vibration or collapse. Filters are individually tested and certified to a minimum efficiency of 99.997% down to 0.3 microns and 95% as small as 0.1 microns. Test certificates are available on request for the finished pleated filter, not just the media in flat form before it is folded and potentially ruptured in the pleating process.

## CHEMICAL/GAS FILTER

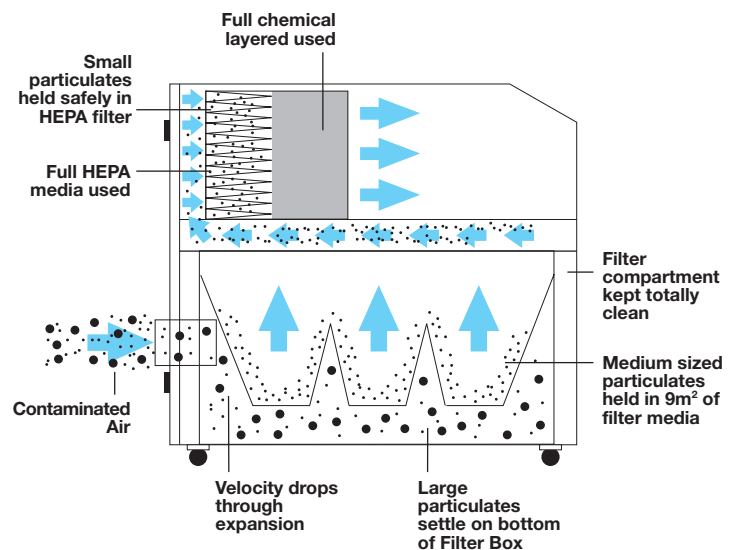
The standard chemical filter is made up of a 50/50 mix of Activated Aluminium Potassium Permanganate and Activated carbon. The media neutralises a broad base of chemicals and VOC (Volatile Organic Compound) pollutants. Where PVC is lasered a third gas media is introduced that is specifically designed to absorb and neutralise harmful and extremely corrosive Hydrogen Chloride (HCL) gas.

## PVC LASERING

It is imperative on PVC applications that all internal contact parts are coated in an acid resistant epoxy, and that a specialist HCL sensor is installed to the extractor. This sensor gives an alarm as soon as the absorption media is nearing saturation. The problem of acidic hydrogen chloride getting through filters needs to be resolved long before it has chance to condense, since the gas is a major health hazard with a maximum exposure level of 1ppm (8hr period from HSE EH40/2000 Occupational Exposure Limits).

## FILTER REPLACEMENT

Filters can be replaced quickly, with ease and safety. Each new filter comes with a resilient neoprene gasket fitted. This ensures that there is no filter bypass caused through reusing existing potentially torn or perished built in seals.



BOFA International is dedicated to improving existing products. Specifications may change without notice.

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## THE ADVANTAGE 20

The Advantage 20 has been designed as an entry level laser fume elimination system. Although an entry level unit the Advantage 20 still incorporates BOFA's unique deep pleat pre filter technology offering 7m<sup>2</sup> of surface area. This system is ideal for low to medium laser use or slower production lines.

### UNIT OPTIONS

- 24v Stop/Start via Laser** - Allows the extractor to start and stop in sequence with laser.
- IP56 Enclosure** - To be used when the extractor will be located in washdown areas.
- VOC Indicator** - The VOC indicator will alert you when Volatile Organic Compounds are getting through the gas filter.
- Dual Voltage/Frequency** - Ideal for OEM's who will be selling extractors with their lasers worldwide.
- Corrosion Proof Enclosure** - For use when extractor will be purifying acid fumes as a result of PVC processing.
- Filter Blocked Signal** - Gives signal to laser when filters are blocked and need replacing.
- System Failure Signal** - Gives signal to laser in the event of a failure within the extractor.
- HCl Monitoring** - Will give a signal if HCL is getting through filters. To be used on all PVC applications.

### UNIT SPECIFICATIONS

#### Carcass

Main body, central support, lid and base are 304 grade brushed stainless steel

#### Standard Equipment

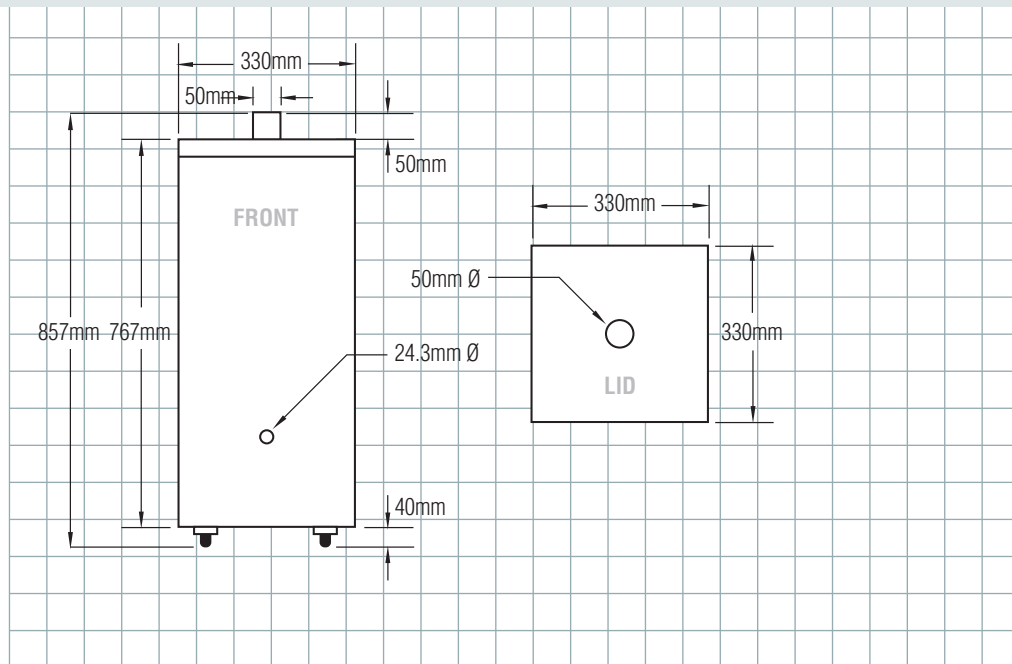
- 3 year warranty
- Industrial grade castors, two lockable
- Integral silencer with air exhausted through base
- Sound level below 54dba
- Standard filter set (see below)
- 50mm/2" diameter inlet
- Filter condition light
- Weight: 35kg

#### Electrics

- 230v 1ph 50hz or 110v 1ph 60hz
- 2 metres power cable
- Fused IEC illuminated switch
- Full load current: 6 amps

#### Blower/Pump

- Side channel blower
- 20,000 hours life
- 0.4kW output
- Airflow 180m<sup>3</sup>/hr (with filter fitted)
- IP54 synchronous (brushless) motor



### Standard Filter Set

**Deep pleat pre-filter**  
**95% efficiency at 0.8 micron. 7m<sup>2</sup> of surface area.**

**Combined filter**  
**99.997% efficiency at 0.3 micron.**  
**Gas filter media: Activated Carbon impregnated with potassium permanganate.**

### Guide to Filter Life

	Bag	Combined	Mini Pleat
Glass	9-12 Months	12 Months	Not required
Paper/Wood/Ceramic/Acetate/Cellulose	9-12 Months	9-12 Months	Not required
Metal	9-12 Months	12 Months	Not required
PET/PP/PE/Epoxy/EPDM/Rubber	2-3 Months	6-7 Months	4-6 Months
Ink Printed/Painted	2-3 Months	5-6 Months	6-7 Months
PVC	2-3 Months	Special Filter	4-6 Months

This chart is a guide only, factors such as character height, amount of characters and depth of the mark will have an effect on the life of the filter.



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## THE ADVANTAGE 180

Specifically designed for every method of laser marking. The high extraction rate and vacuum coupled with unsurpassed filter capacity and design makes premature filter skinning or blocking, a thing of the past. The unit can be modified for PVC processing with an additional upgrade that incorporates a unique HCL gas monitor.

### UNIT OPTIONS

- 24v Stop/Start via Laser** - Allows the extractor to start and stop in sequence with laser.
- VOC Indicator** - Alerts you when Volatile Organic Compounds are getting through the gas filter.
- Dual Voltage/Frequency** - Ideal for OEM's who will be selling extractors with their lasers worldwide.
- PVC upgrade** - To be used when processing PVC. Includes ACID proofing internal contact parts, VOC monitoring and specific HCL monitor.
- System Failure Signal** - Signals laser in the event of a failure within the extractor.
- Filter Condition Gauge**
- Filter Blocked Signal** - Signals laser when filters need replacing.
- Particulate Monitoring** - Signals if particulate is detected.

### UNIT SPECIFICATIONS

#### Carcass

Main body, central support, lid and base are 304 grade brushed stainless steel

#### Standard Equipment

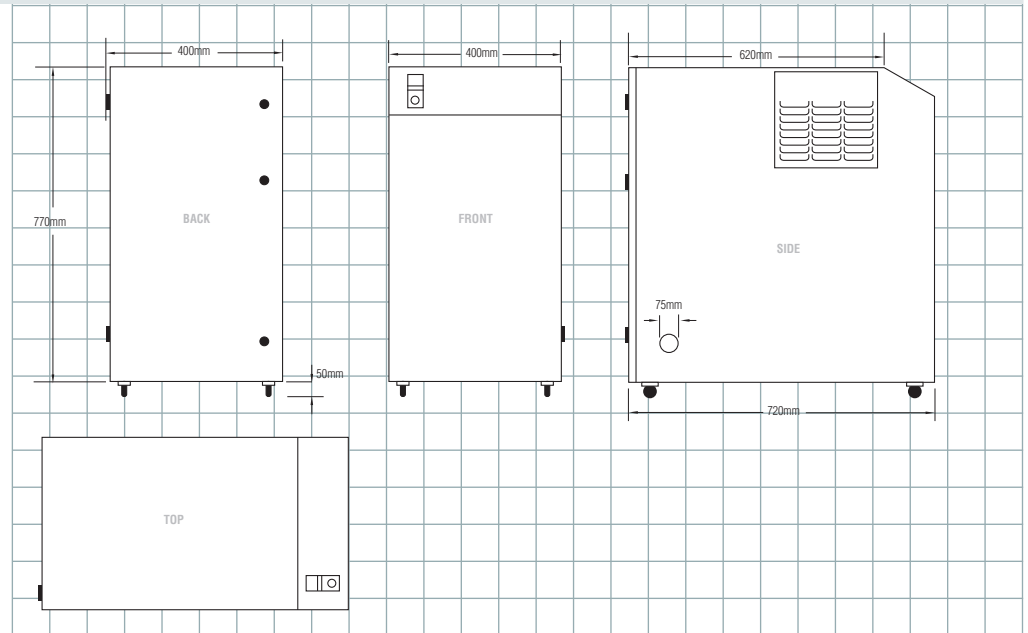
- 3 year warranty
- Industrial grade castors, two lockable
- Integral silencer
- Filter blocked indicator light
- Sound level below 60dba
- Standard filter set (see below)
- 50mm diameter inlet
- Corrosion resistant carcass
- IP56 enclosure
- Weight: 60kg

#### Electrics

- 230v 1ph 50/60hz or 110v 60/50hz
- 3 metres hard wired power cable
- Illuminated 8A trip ON/OFF switch
- Full load current: 6 amps

#### Blower/Pump

- 20,000 hours life
- 0.8kW output
- Airflow 180m<sup>3</sup>/hr (with filter fitted)
- IP54 synchronous (brushless) motor



### Standard Filter Set

#### Mini pleat two stage pre filter

**95% efficiency at 0.8 micron, 9m<sup>2</sup> of surface area.**

#### Combined filter

**99.997% efficiency at 0.3 micron HEPA.**

**Activated Carbon impregnated with potassium permanganate.**

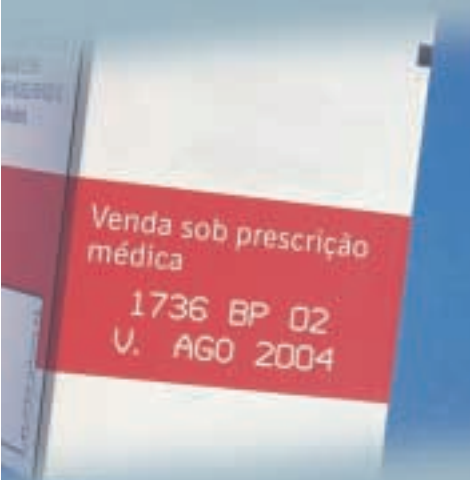
### Guide to Filter Life

	Mini Pleat	Combined
Glass	9-12 Months	12 Months
Paper/Wood/Ceramic/Acetate/Cellulose	9-12 Months	9-12 Months
Metal	9-12 Months	12 Months
PET/PP/PE/Epoxy/EPDM/Rubber	4-6 Months	6-9 Months
Ink Printed/Painted	4-6 Months	6-9 Months
PVC	4-6 Months	6-9 Months

This chart is a guide only, factors such as character height, amount of characters and depth of the mark will have an effect on the life of the filter.

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## THE ADVANTAGE 400

**Purpose built for laser engraving, etching and marking cabinets. Offering an airflow of 400m<sup>3</sup>h along with Bofa's unique deep mini pleat pre filter makes this system ideal for these arduous applications. The advantage 400 can also be used for multiple laser marking heads simultaneously.**

### UNIT OPTIONS

**24v Stop/Start via Laser** - Allows the extractor to start and stop in sequence with laser.

**VOC Indicator** - Alerts you when Volatile Organic Compounds are getting through the gas filter.

**PVC upgrade** - To be used when processing PVC. Includes ACID proofing internal contact parts, VOC monitoring and specific HCL monitor.

**System Failure Signal** - Signals laser in the event of a failure within the extractor.

**Filter Blocked Signal** - Signals laser when filters need replacing.

**Particulate Monitoring** - Signals if particulate is detected.

### UNIT SPECIFICATIONS

#### Carcass

Main body, central support, lid and base are 304 grade brushed stainless steel

#### Standard Equipment

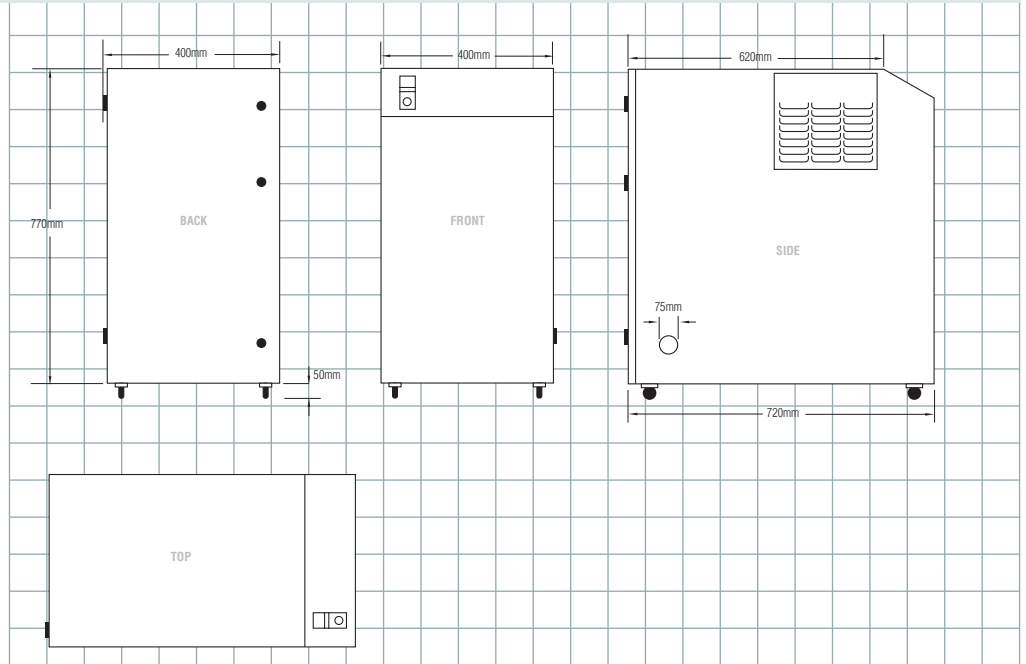
- 3 year warranty
- 4 x 3" industrial grade castors, two lockable
- Integral silencer
- Filter blocked indicator light
- Filter condition display
- Sound level below 60dba (max flow)
- Standard filter set (see below)
- 75mm diameter inlet
- Corrosion resistant carcass
- IP56 enclosure
- Weight: 60kg

#### Electrics

- 230v 1ph 50/60hz or 110v 60/50hz
- 3 metres hard wired power cable
- Illuminated ON/OFF switch
- Full load current: 9 amps

#### Blower/Pump

- 20,000 hours life
- 1.1kW output
- Airflow 400m<sup>3</sup>/hr (with filter fitted)
- IP54 synchronous (brushless) motor



### Standard Filter Set

#### Mini pleat two stage pre filter

**95% efficiency at 0.8 micron, 9m<sup>2</sup> of surface area.**

#### Combined filter

**99.997% efficiency at 0.3 micron HEPA.**

**Activated Carbon impregnated with potassium permanganate.**

### Guide to Filter Life

	Mini Pleat	Combined
Glass	9-12 Months	12 Months
Paper/Wood/Ceramic/Acetate/Cellulose	9-12 Months	9-12 Months
Metal	9-12 Months	12 Months
PET/PP/PE/Epoxy/EPDM/Rubber	4-6 Months	6-9 Months
Ink Printed/Painted	4-6 Months	6-9 Months
PVC	4-6 Months	6-9 Months

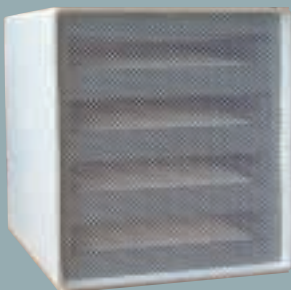
This chart is a guide only, factors such as character height, amount of characters and depth of the mark will have an effect on the life of the filter.

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System controls



## THE ADVANTAGE 1500 & 4000

The Advantage 1500 & 4000 have been designed to cope with the mass of fume and dust generated during the laser cutting of materials. With huge airflow and massive filter holding capacity, these units are unrivalled in the field of laser cutting. The systems can also be used as centralised extraction units for multiple laser marking heads.

### UNIT OPTIONS

- 24v Stop/Start** - Allows the extractor to start and stop in sequence with laser
- Filter Blocked Signal** - Gives signal to laser when filters are blocked and need replacing
- System Failure Signal** - Gives signal to laser in the event of a failure within the extractor
- Particulate Monitoring** - Will give a signal if particulate is detected.
- Stainless Steel Carcass** - If unit is to be used in food/pharmaceutical areas.

### UNIT SPECIFICATIONS

#### Carcass

Main Body, central support, door and base are manufactured in zintech steel and powder coated

#### Standard Equipment

- 3 years warranty
- 4 x 100mm industrial grade castors, two lockable
- Integral silencer
- Filter blocked indication graph
- Gas detection
- Automatic flow control
- Standard filter set (see below)
- 125mm diameter inlet

#### Electrics

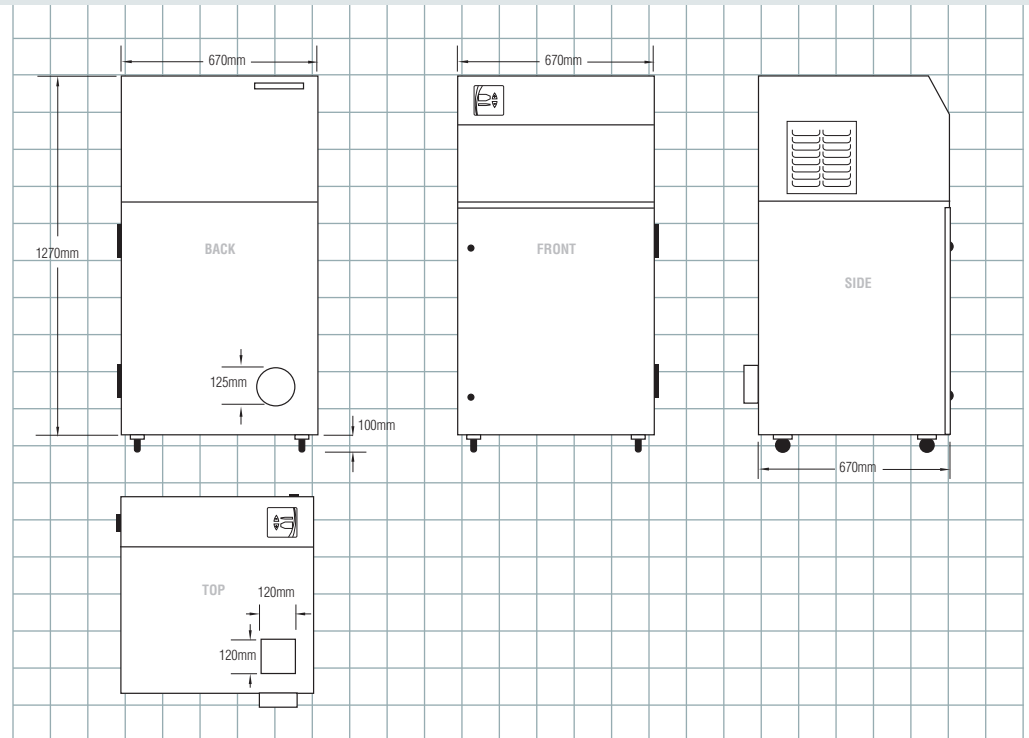
- 400v 3ph 50hz
- Illuminated ON/Off switch

#### Advantage 1500 Blower/Pump

- 20,000 hours life
- 3.5kw
- Airflow 1500M<sup>3</sup>h (with filter fitted)
- IP54 synchronous (brushless) motor

#### Advantage 4000 Blower/Pump

- 20,000 hours life
- 5kw
- Airflow 4000M<sup>3</sup>h (with filter fitted)
- IP54 synchronous (brushless) motor



### Standard Filter Set

- Mini pleat two stage pre filter, 95% efficiency at 0.8 micron, 19m<sup>2</sup> of surface area
- HEPA filter 99.997% efficiency at 0.3 micron
- Gas filter
- Active Carbon impregnated with Potassium Permanganate



Authorised Agent

**BOFA INTERNATIONAL LTD**

**Unit 13 Fleetsbridge Business Centre Poole Dorset England BH17 7AF UK**

**Tel +44 (0)1202 666789**

**Fax +44 (0)1202 649922**

**Email [sales@bofa.co.uk](mailto:sales@bofa.co.uk)**

**Website [www.bofa.co.uk](http://www.bofa.co.uk)**

**[www.laserfumeextraction.com](http://www.laserfumeextraction.com)**

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