

INDUSTRIAL AIR FILTRATION

ESPi / MFi RANGE

600 | 1000 | 2000 | 4000 | CENTRALISED

Version 1.0

purified[®]air

INDUSTRIAL AIR FILTRATION EXPERTS

Purified Air Ltd. has been
manufacturing market
leading air filtration
technology since 1984.

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OUR SOLUTIONS

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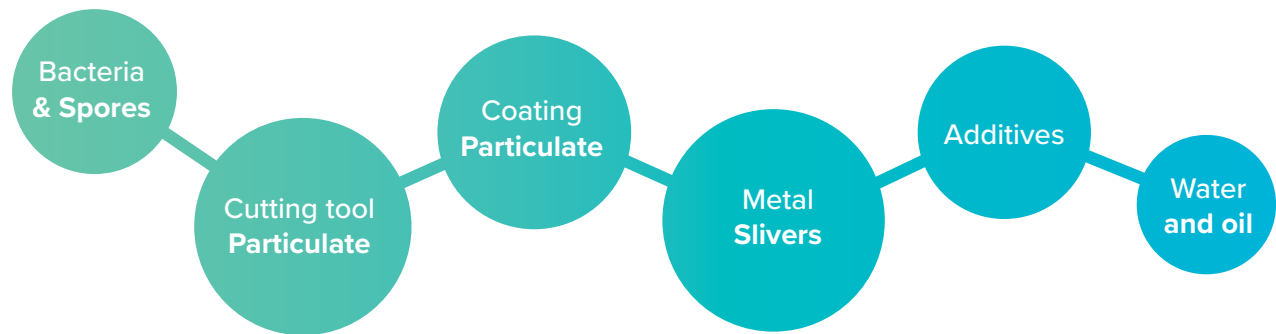
ABOUT US

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CONTACT US

INDUSTRIAL PROCESSES

Our solutions are ideal for applications involving neat oils and emulsions. Machining processes, combined with coolant use, generate submicron particulate matter – either through atomisation or as a byproduct of the cutting process. These systems are particularly suited to high-precision machine tool manufacturers.



APPLICATIONS



Sliding heads



Gear hobbing



Grinding



Gun Drill



Welding



Die Casting

Most other neat oil applications are ideal for Electrostatic Precipitation (ESP)



OIL

OIL MIST

FUMES

MACHINE MOUNTED

ESPi 600/1000

ELECTROSTATIC PRECIPITATOR

Our Oil Mist Units features a double-pass ESP technology and is efficient at 99%. Due to their compact size and built in fan system, they can be directly mounted to a machine tool.

Specifically designed for the industrial market, this compact unit generates low vibrations, making it ideal for mounting onto fine finishing or high-pressure/heat oil machine tools.

A highly efficient oil, mist and smoke collector is effective on all metalworking fluids.



KEY FEATURES

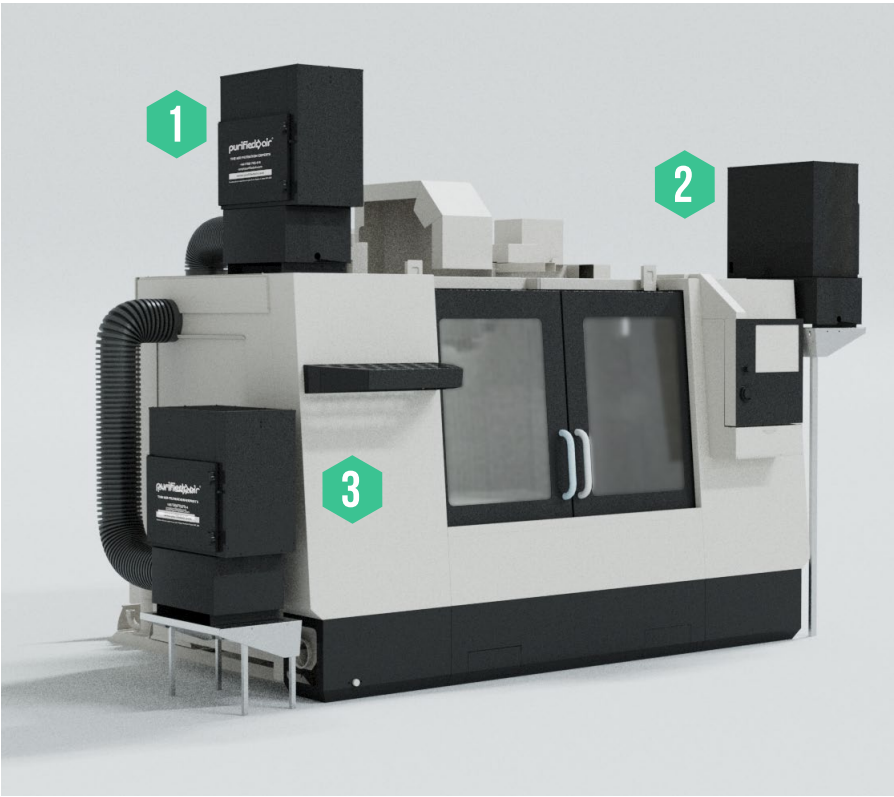
- ▶ Filters particles down to sub-micron levels
- ▶ Tested to 99% efficiency
- ▶ Low operating costs
- ▶ Minimal maintenance required
- ▶ Specifically designed for industrial application
- ▶ Energy efficient
- ▶ Removes oil, mist and smoke
- ▶ Compact design

HOW IT'S INSTALLED

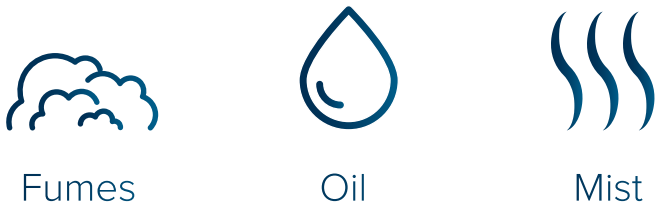
Installations will be directed by the customer and can be either:

- 01 Direct mounted with plenum
- 02 Side Mounted with plenum and gallows bracket
- 03 Stand mounted with plenum separate

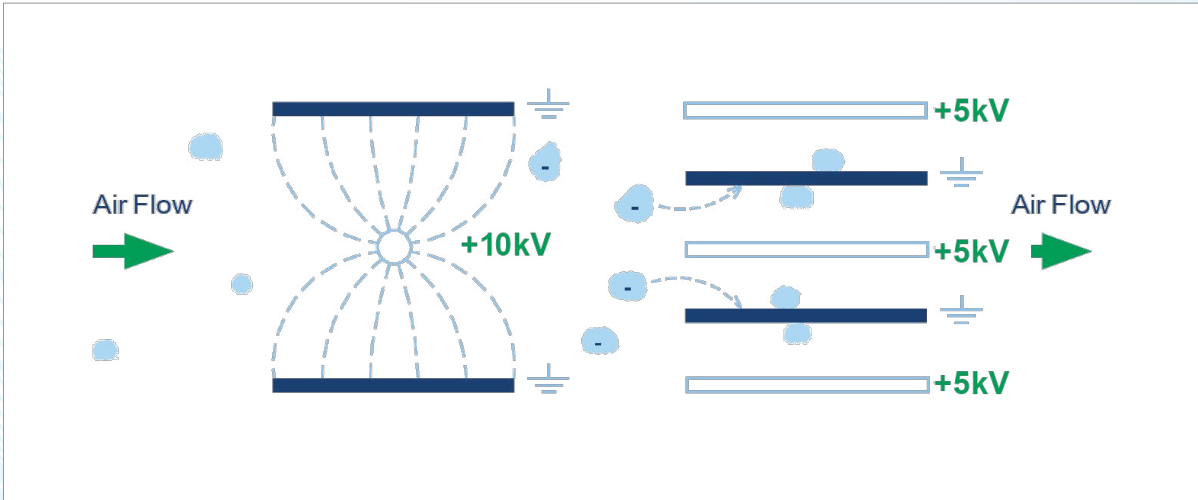
Note: Purified Air do not recommend direct mounting



FILTERS REMOVE



THE ELECTROSTATIC PROCESS



The above diagram shows, in a basic visual, how an electrostatic precipitator works:

As air passes into the combined ioniser / collector cell, the particulates in the air stream are polarised. As they continue through the ioniser and between the collector cell plates, the polarised particulates are repelled away from the positively charged plates and attracted to the earthed plates where they stick and so are filtered out of the air flow.

THE BENEFITS OF ELECTROSTATIC TECHNOLOGY

 Eliminates 99% of particles	 Filters particles down to sub-micron levels	 Compact design	 Energy efficient
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OUR SERVICES

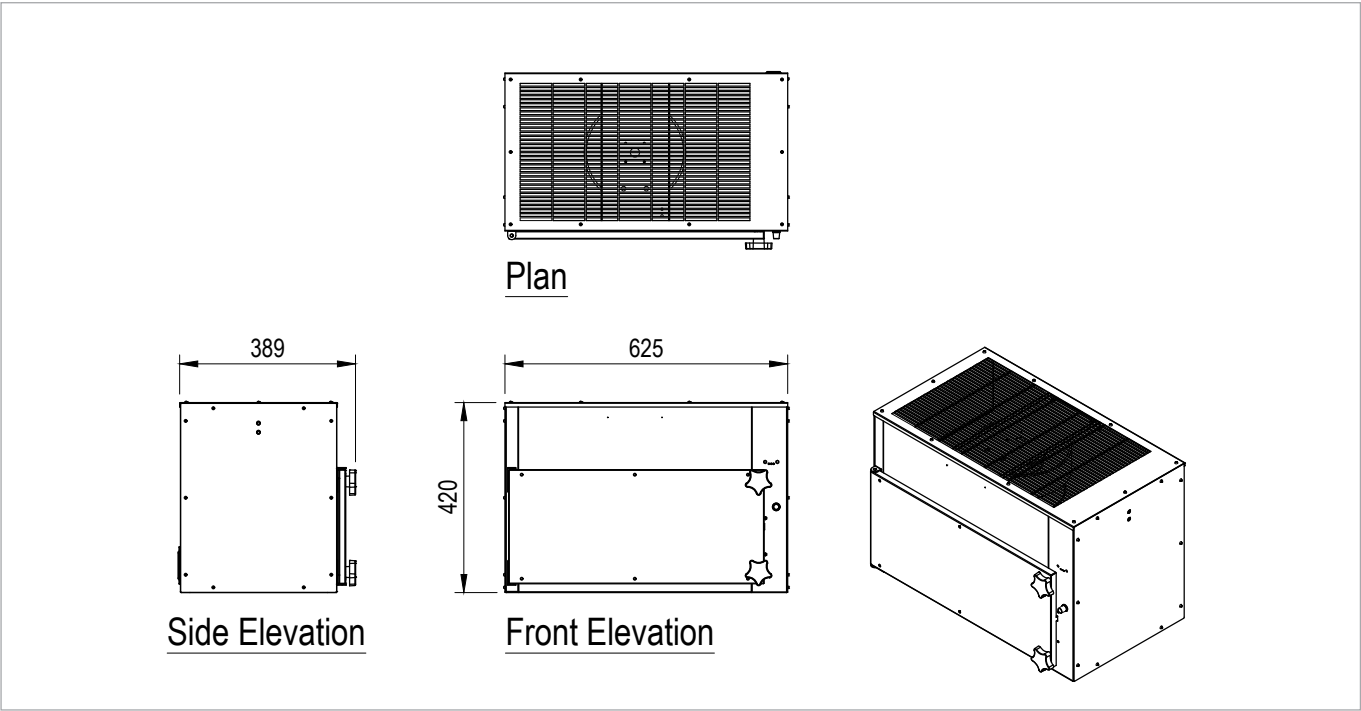
 Design	 Manufacture	 Maintain
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TECHNICAL SPECIFICATION

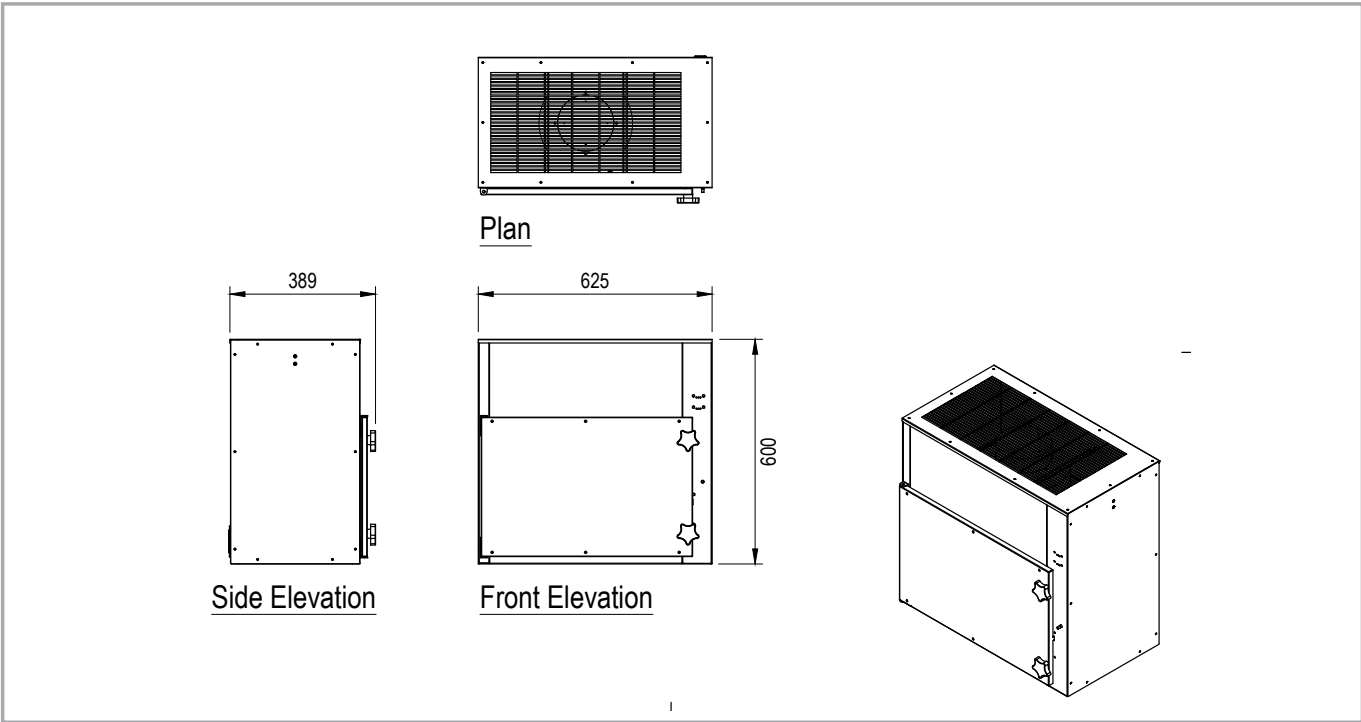
	ESPi 600	ESPi 1000
Electrical Supply	220/240V / 1 / 50-60Hz	220/240V / 1 / 50-60Hz
Max Air Volume	up to 600m³/h	up to 1000m³/h
Max Power Consumption	230w	280w
Dimensions (mm)	W 625 mm	W 625 mm
	H 420 mm	H 600 mm
	D 389 mm	D 389 mm
Weight (kg)	30kg	41kg

DRAWINGS

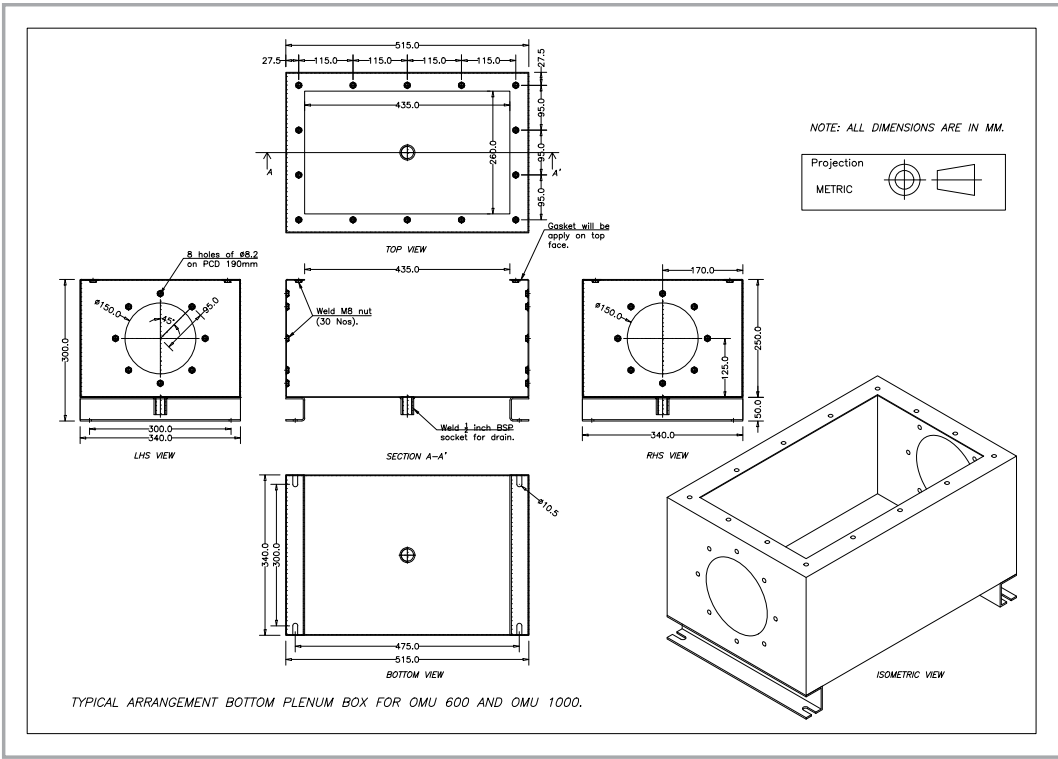
ESPi 600



ESPi 1000



PLENUM



OIL

OIL MIST

FUMES

MACHINE MOUNTED

ESPi 2000/4000

ELECTROSTATIC PRECIPITATOR

Our Electrostatic Precipitators, or ESPs, are up to 99% efficient. Due to their modular design and built-in fan system, the units can be mounted on a machine tool, on a freestanding stand or via a transition to allow for venting to the atmosphere.

Specifically designed to work with more significant airflow volumes of larger high-pressure neat oil machines, this highly efficient oil mist, smoke, and fume collector is effective in most manufacturing processes.



KEY FEATURES

- ▶ Filters particles down to sub-micron levels
- ▶ Tested to 99% efficiency
- ▶ Low operating costs
- ▶ Minimal maintenance required
- ▶ Specifically designed for industrial application
- ▶ Energy efficient
- ▶ Removes oil, mist and smoke
- ▶ Compact design

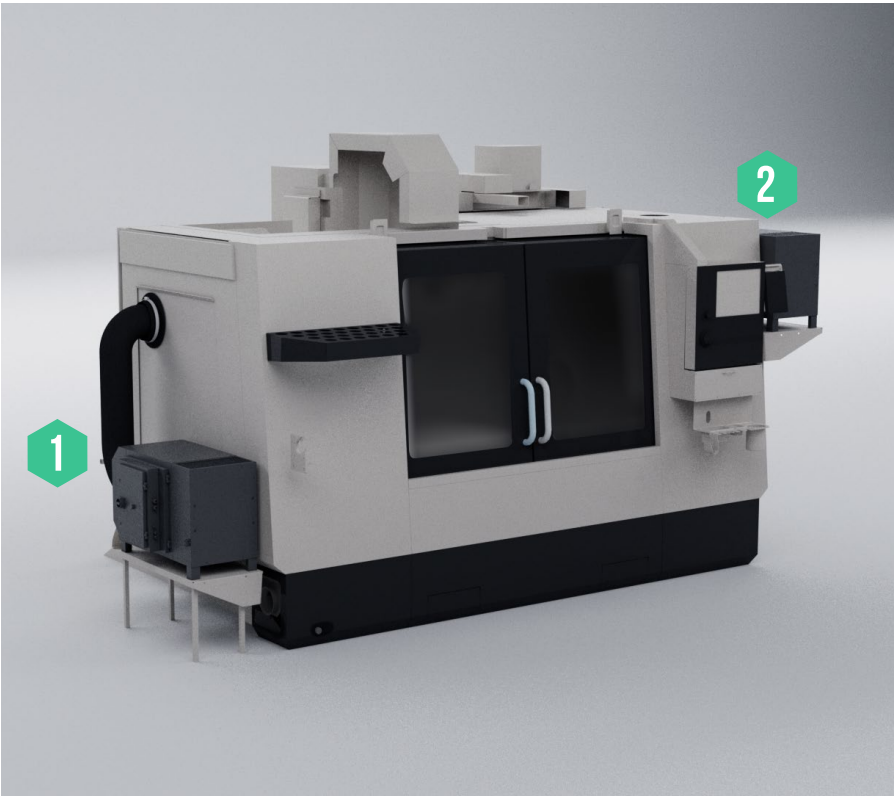
HOW IT'S INSTALLED

Installations will be directed by the customer and can be either:

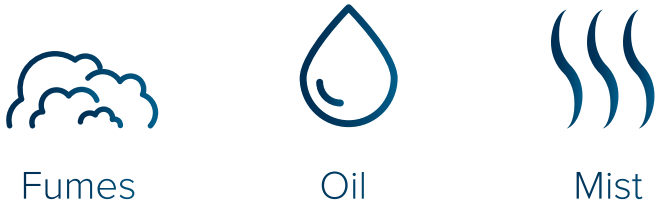
- 01 Side Mounted with gallows bracket
- 02 Stand mounted separate

2000/4000 unit can only be directly mounted on larger machinery.

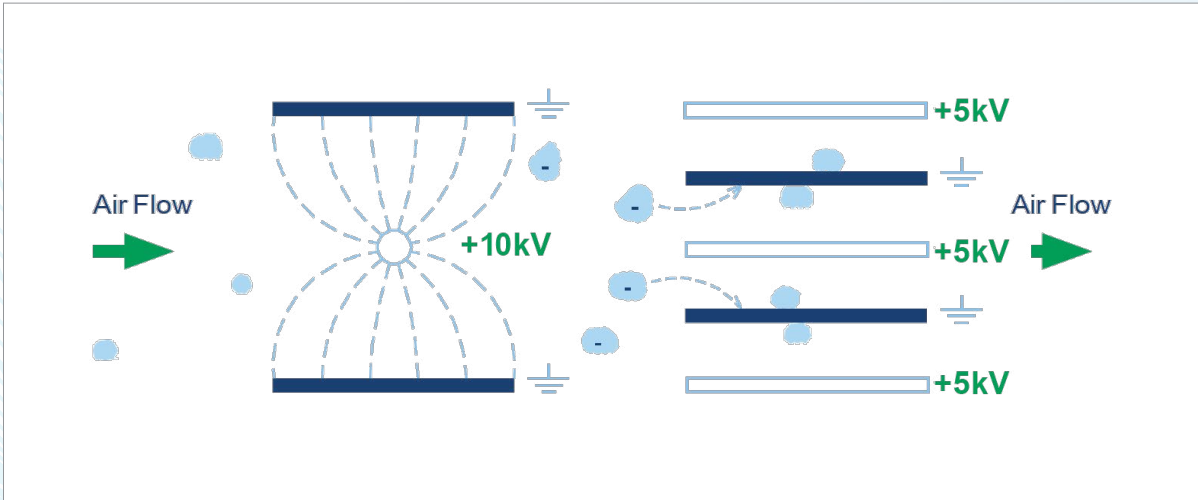
Note: Purified Air do not recommend direct mounting.



FILTERS REMOVE



THE ELECTROSTATIC PROCESS



The above diagram shows, in a basic visual, how an electrostatic precipitator works:

As air passes into the combined ioniser / collector cell, the particulates in the air stream are polarised. As they continue through the ioniser and between the collector cell plates,

the polarised particulates are repelled away from the positively charged plates and attracted to the earthed plates where they stick and so are filtered out of the air flow.

THE BENEFITS OF ELECTROSTATIC TECHNOLOGY



OUR SERVICES

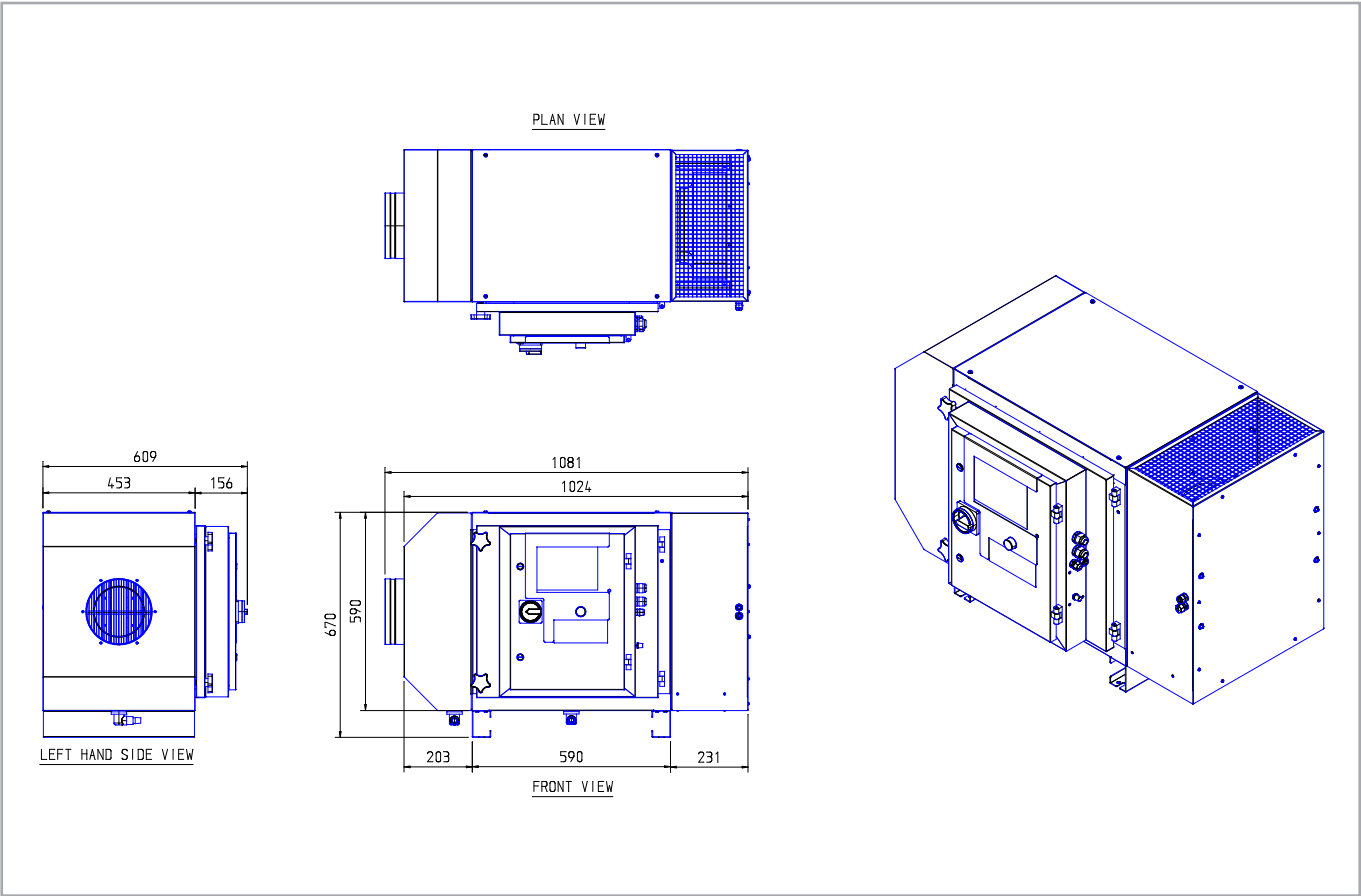


TECHNICAL SPECIFICATION

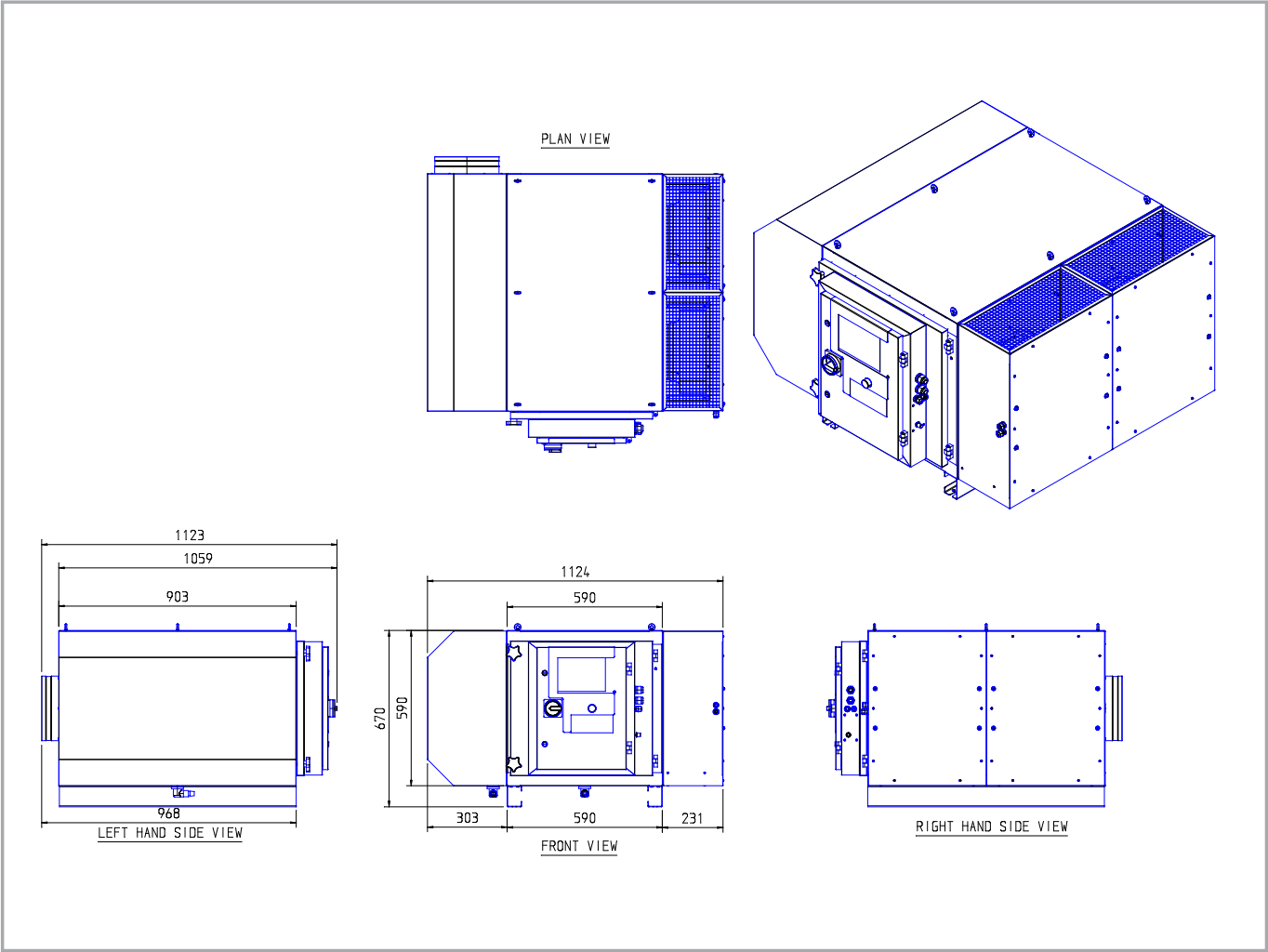
	ESPi 2000	ESPi 4000
Electrical Supply	220/240 / 1 / 50-60Hz	220/240 / 1 / 50-60Hz
Max Air Volume	up to 2000m³/h	up to 4000m³/h
Max Power Consumption	540w	1080w
Dimensions (mm)	W 609 mm	W 1123 mm
	H 670 mm	H 670 mm
	D 1081 mm	D 1124 mm
Weight (kg)	66kg	132kg
	Double Pass available	

DRAWINGS

ESPi 2000



ESPi 4000



OIL

OIL MIST

FUMES

IN-DUCT

ESP CENTRALISED

ELECTROSTATIC PRECIPITATOR

1500 | 3000 | 4500 | 6000

Our Electrostatic Precipitators, or ESPs, are ideally suited to larger volumes of smoke, fumes and oil mist. The unit's sizeable modular capacity can be configured from 2500m³/h up to 60,000m³/h. They are IP65-rated and have a built-in sump and drain point.

Access doors and replaceable components enable them to be serviced easily and quickly, reducing workshop downtime. In addition, systems can be configured to remove odour control to offer greater comfort within the workshop or industrial environment by lowering the contaminated air that is exhausted into the atmosphere.

Our products are compact, energy-efficient and affordable for small workshops (cellular) but scalable for large turnkey projects (centralised), delivering a significant ROI.



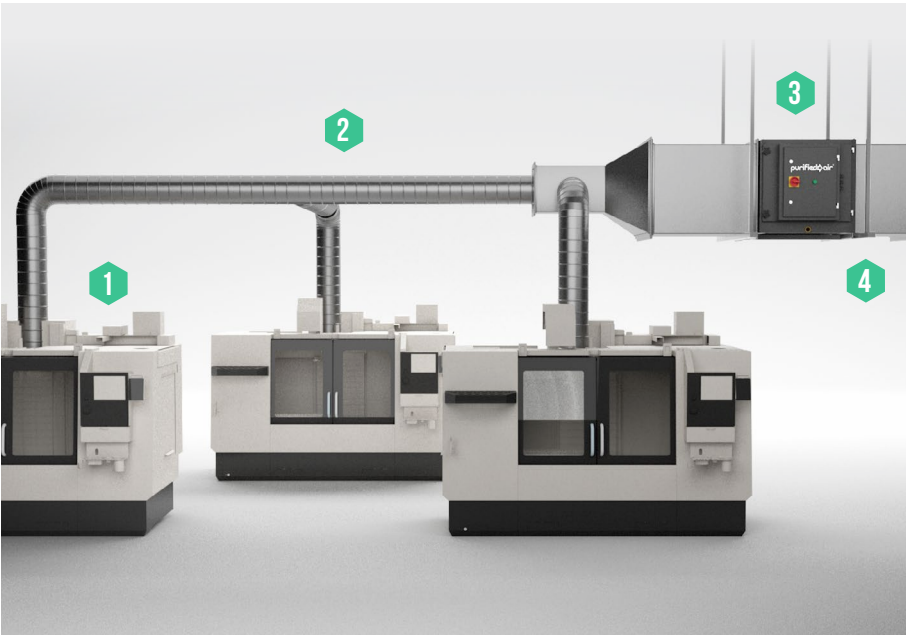
KEY FEATURES

- Eliminates up to 98% of oil mist, fumes and smoke particles
- Designed for industrial application
- Suited for large air volumes
- Energy efficient: uses 20–50W
- Filters particles down to sub-micron levels
- Quick and easy service access reducing workshop down time
- Designed with an integral sump
- IP65 rated for outside location
- Modular in design

HOW IT WORKS

Our ESP units fit in-line with the workshop ducting and can be configured modularly to cope with all extract volume requirements.

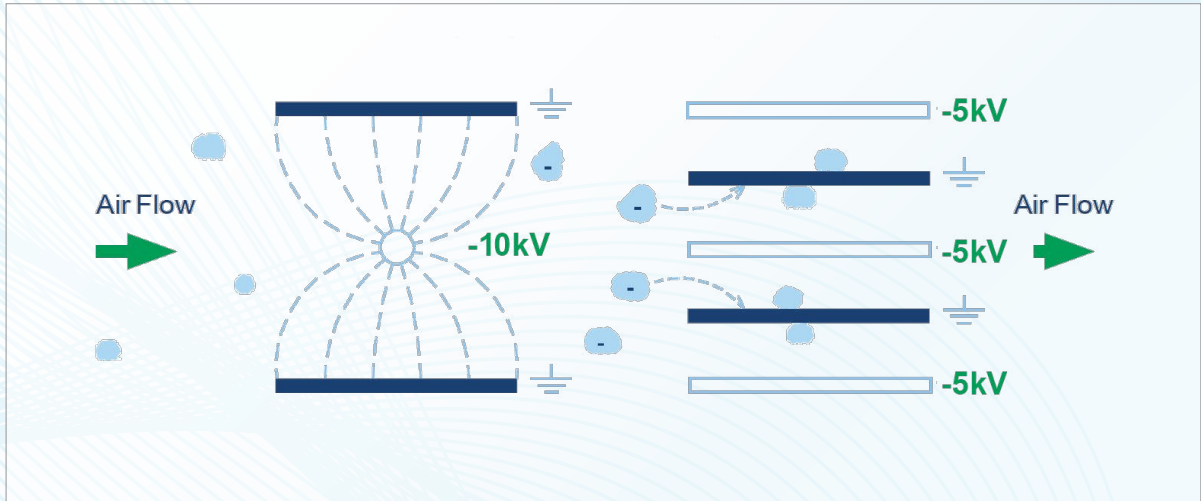
- 01 Smoke, fumes and oil mist particulates
- 02 Air drawn up through the ducting
- 03 ESP - Particulate Control Unit
- 04 Purified air drawn out to exhaust



TECHNICAL SPECIFICATION

	ESP 1500	ESP 3000	ESP 4500	ESP 6000
Electrical Supply	220/240V / 1 / 50-60Hz			
Max Air Volume	Up to 2520 m³/h	Up to 5040m³/h	Up to 7560m³/h	Up to 10080m³/h
Max Power Consumption	20w	30w	40w	50w
Dimensions (mm)	W 450 mm	W 900 mm	W 1350 mm	W 1800 mm
	H 630 mm	H 630 mm	H 630 mm	H 630 mm
	D 640 mm	D 640 mm	D 640 mm	D 640 mm
Weight (kg)	55kg	85kg	118kg	153kg

THE ELECTROSTATIC PROCESS



The above diagram shows, in a basic visual, how an electrostatic precipitator works:

As air passes into the combined ioniser / collector cell, the particulates in the air stream are polarised. As they continue through the ioniser and between the collector cell plates,

the polarised particulates are repelled away from the negatively charged plates and attracted to the earthed plates where they stick and so are filtered out of the air flow.

THE BENEFITS OF ELECTROSTATIC TECHNOLOGY

- Eliminates up to 99% of particles
- Filters particles down to sub-micron levels
- Modular design
- Energy efficient

SCALABLE SOLUTIONS



Our air filtration systems are designed with scalability in mind, offering a flexible solution that can grow with your needs.



Our modular approach to a solution was borne out of necessity, many building in the UK are just too small to accommodate large cumbersome AHU's, Pollution Control units or even large Filter systems.

Our airflow ranges from 600m³hr > 160,000m³hr, our product ranges combine multiple technologies that work independently or collectively to create a customer centric solution. This enables you to vent clean air back to the outside atmosphere or give the option to recirculate back into the Workspace.

TECHNOLOGIES

- ESP** Electrostatic Precipitators
- UV-C** Ultraviolet (Odour)
- Media Filters**
Carbon | Panel | Bag | HEPA

APPLICATIONS INCLUDE:

- Fumes (submicron)**
- Oilmist**
- Odours**
- Smoke**

Multi-Stage Filtration Examples



2 x ESP 3000

4 x MFU 1800

Max Air Flow: 6000cfm
up to 99% efficiency



6 x ESP 3000



3 x ESP 3000

6 x MFU 1800

DUST

OIL MIST

FUMES

CEILING SUSPENDED

ESPi 2000/4000 AAC

ELECTROSTATIC PRECIPITATOR

PURPOSE

Purified Air Ambient Air Cleaner (AAC) are designed to effectively capture airborne pollutants and maintain plant air quality below recommended exposure limits, providing a cost-effective solution for improved worker safety and reduced energy consumption.

PERFORMANCE

When properly installed and operated, the AAC can reduce airborne particulate by 80%, significantly improving overall air quality within the facility. By utilising the filtration of tempered air rather than exhausting contaminated air results in substantial savings on heating and cooling costs.



KEY FEATURES

- ▶ Filters Smoke Fumes & oil mist particles to sub-micron levels
- ▶ Tested to 99% efficiency
- ▶ Low operating costs no consumable filters
- ▶ Easy to install with minimal maintenance
- ▶ Designed to be suspended (above open applications)
- ▶ Energy efficient – uses no more than 540W / 1080W
- ▶ Reduces airborne particulate matter (PM) by up to 80%
- ▶ Compact design



HOW IT WORKS

Our ESP units fit in-line with the workshop ducting and can be configured modularly to cope with all extract volume requirements.

FILTERS REMOVE



Fumes



Oil mist

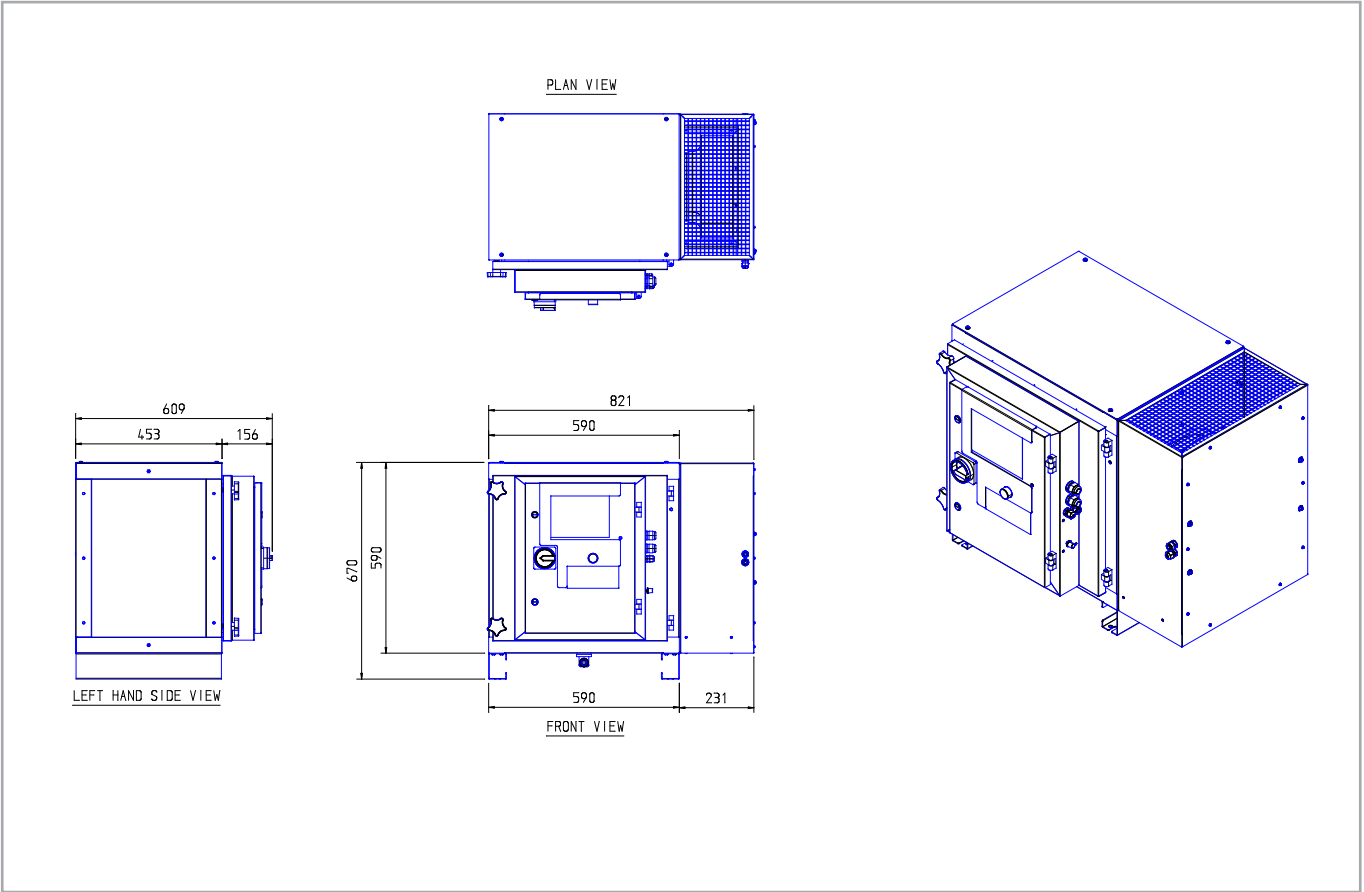


Emulsion Fumes

TECHNICAL SPECIFICATIONS

	ESPi 2000AAC	ESPi 4000AAC
Electrical Supply	220/240V / 1 / 50-60Hz	220/240V / 1 / 50-60Hz
Max Air Volume	up to 2000m³/h	up to 4000m³/h
Max Power Consumption	540w	1080w
Dimensions (mm)	W 609 mm	W 1059 mm
	H 670 mm	H 670 mm
	D 821 mm	D 821 mm
Weight (kg)	61kg	127kg

DRAWINGS



DUST OIL MIST FUMES

MACHINE MOUNTED

MFi 2500

3-STAGE MEDIA FILTRATION

Our media filtration (MFi) units utilise high-quality HEPA filtration to eliminate mist, smoke, and particulates produced during machine tooling processes with up to efficiency of up to 99.95%

Due to their modular design and integrated fan system, these units can be easily mounted on a machine tool using a free-standing stand or by connecting them for direct venting to the atmosphere.

These units are tailored to handle significant airflow volumes, making them ideal for larger, high-pressure neat oil machines. Their high efficiency makes them effective for most manufacturing processes.



KEY FEATURES

- ▶ Filters mist, fumes & smoke particles
- ▶ Multi-stage filtration inc. HEPA filter
- ▶ Up to 99.95% efficiency
- ▶ Easy to install with minimal maintenance
- ▶ Energy efficient: uses no more than 480W
- ▶ Compact design

FILTERS REMOVE



Fumes



Oil Smoke



Oil mist



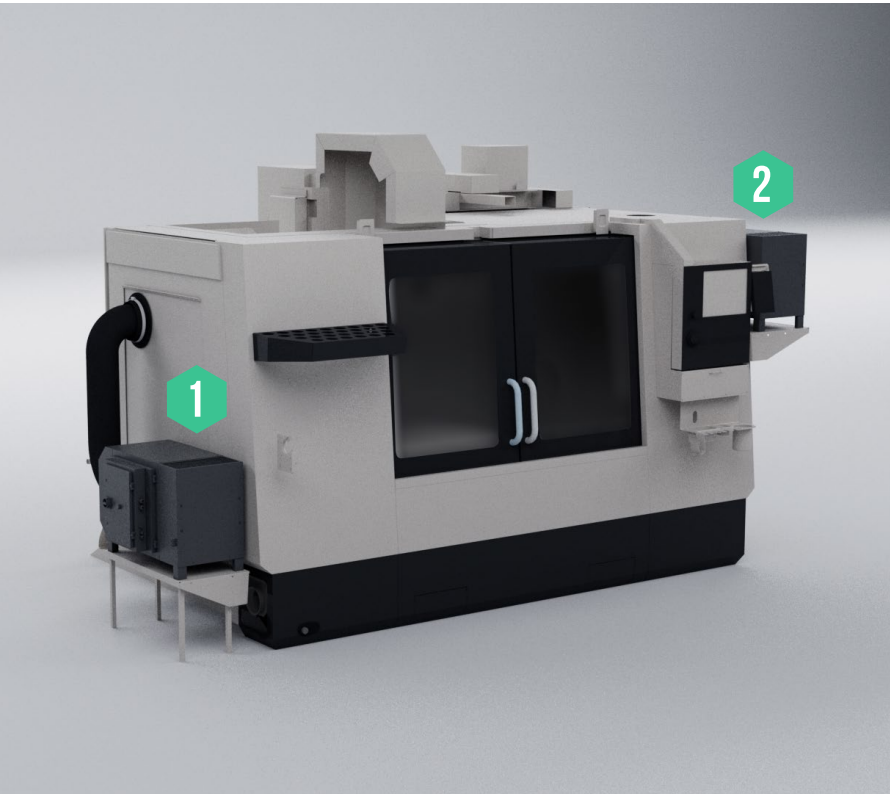
Dust

HOW IT'S INSTALLED

Installations will be directed by the customer and can be either:

- 01 Side Mounted with gallows bracket
- 02 Stand mounted separate

MFi 2500 unit can only be directly mounted on larger machinery.

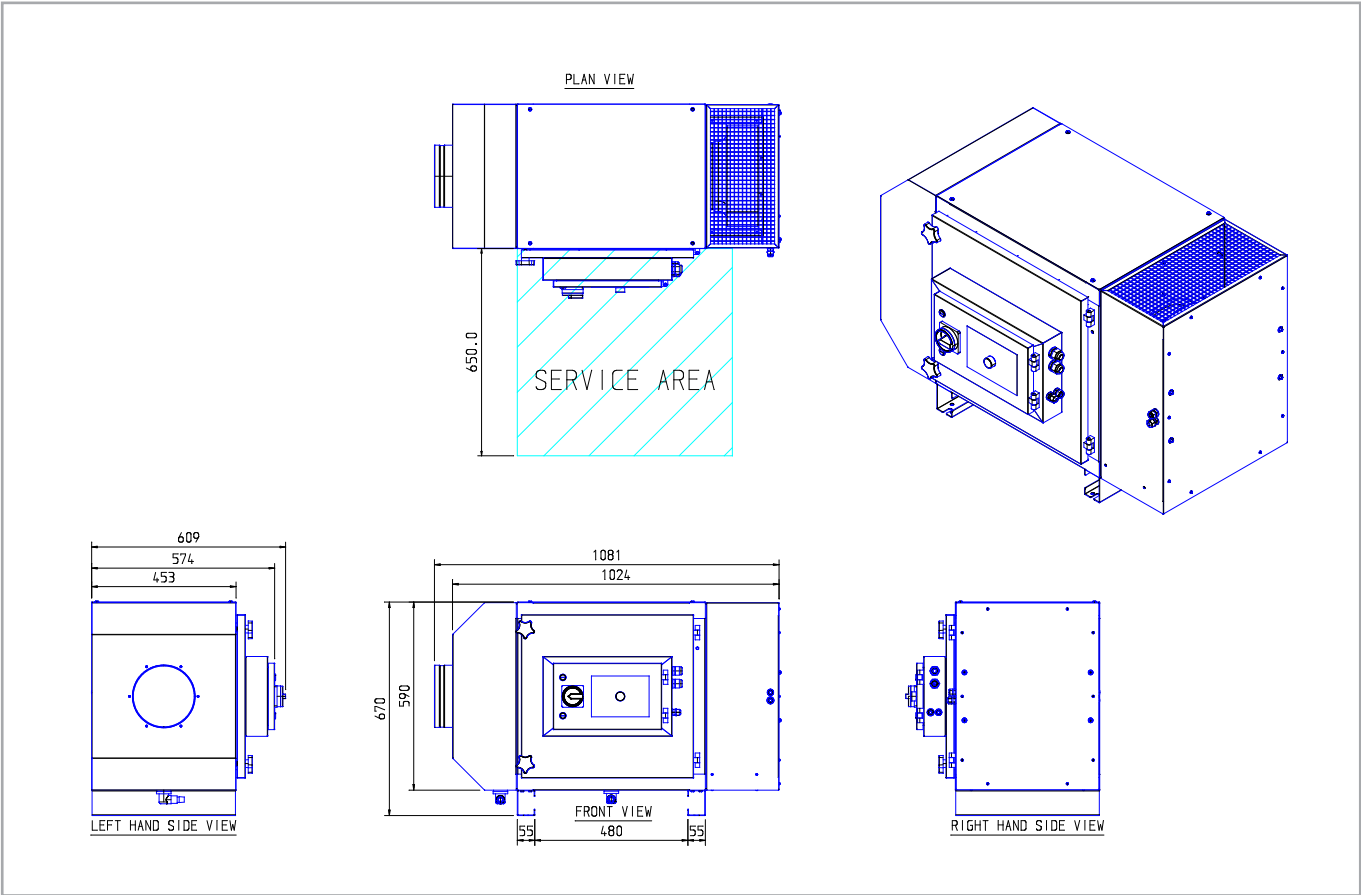


TECHNICAL SPECIFICATION

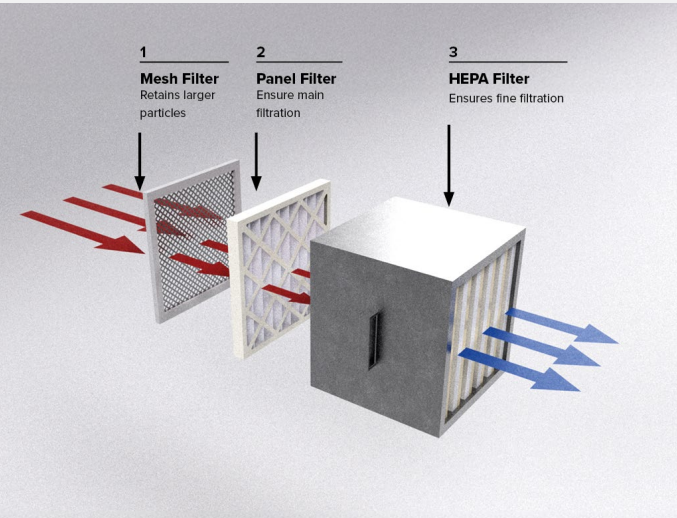
MFi 2500	
Electrical Supply	220/240V / 1 / 50-60Hz
Max Air Volume	up to 2549m³/h
Max Power Consumption	480w
Dimensions (mm)	W 609 mm
	H 670 mm
	D 1081 mm
Weight (kg)	68kg

DRAWINGS

MFi 2500



3-STAGE FILTRATION PROCESS



- STAGE 1 Wire Mesh Filter**
Protects the main filter cell and coalesces the particulate matter
- STAGE 2 Panel Filter (G4)**
Removes the larger particles
- STAGE 3 HEPA (H14)**
filtering to submicron levels

ABOUT US

Purified Air's filtration products have been used by some of the world's largest brands since 1984.

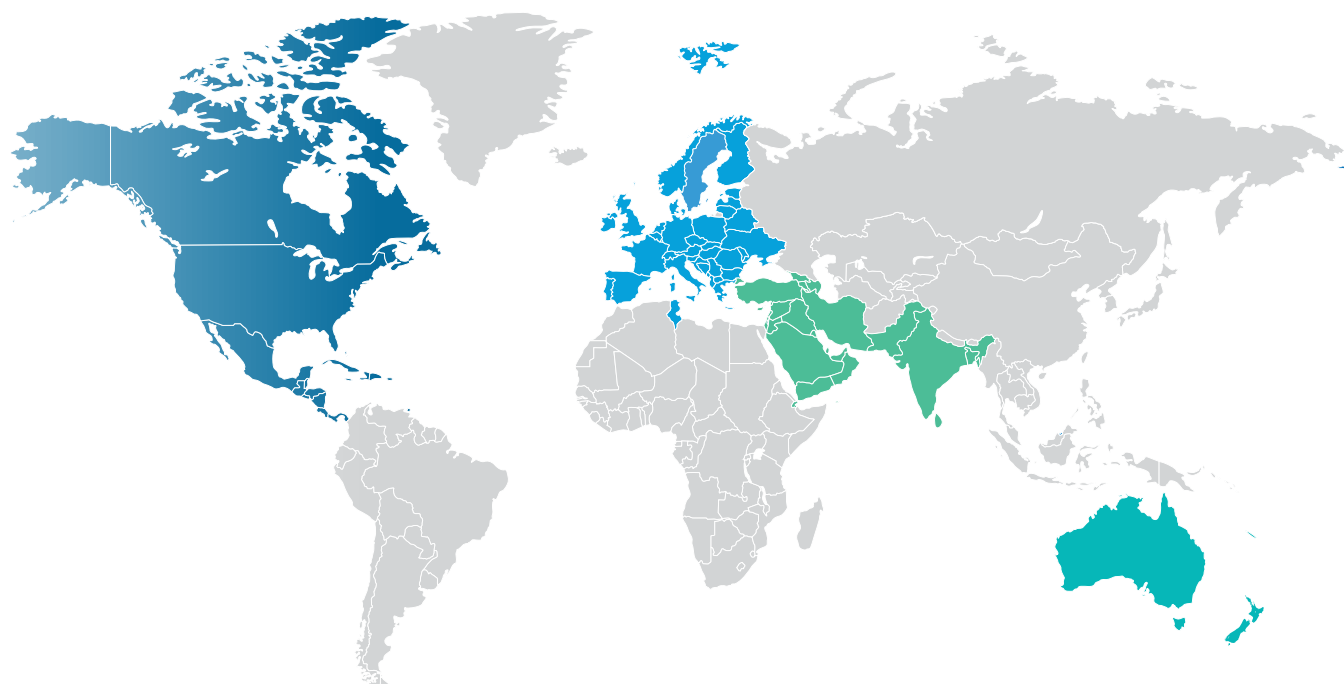
In those 40 years we have developed a technology first approach allowing us to deliver highly efficient products supporting our partners in many different sectors, covering individual cellular extraction through to large turnkey projects. We are the only UK-based manufacturer of industrial/commercial electrostatic precipitators (ESPs). Modular, affordable, and scalable, our systems are unrivalled, with an efficiency of 99% down to 0.01µm.



MARKET LEADERS
S I N C E
1984

WORLDWIDE COVERAGE

- United Kingdom
- Middle East
- Europe
- North America
- Asia
- Australasia



GET IN TOUCH

+44 (0) 1708 755 414

enq@purifiedair.com

Purified Air Limited, Lyon House
Lyon Road, Romford,
Essex RM1 2BG

purifiedair.com



purifiedair®

purifiedair.com