2050 Ionised Air Blowers

Model 2050 is a compact, high performance Static Eliminator designed for longer range and wide area static neutralisation.

It is used in a wide range of industries.

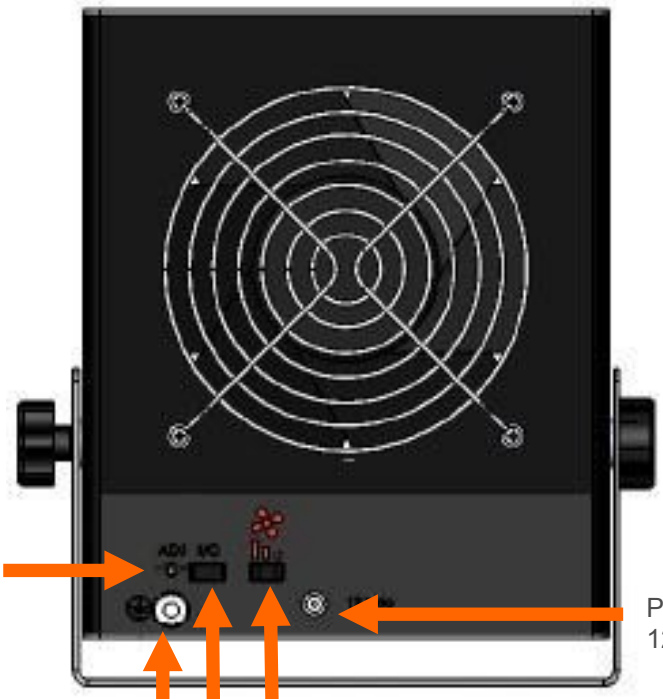
It consists of an integrated power unit, ionising head and fan. It is powered by 12V DC. The specification includes a 90/25V AC power supply.

The 2050 has a single fan, but it will also available in 2-fan and 3-fan versions.

Notes

Operation and Controls

LED Indicator Lamp.
Green = Operation OK
Red= Operation fault.



Balance adjust with 2mm flat blade screwdriver

Power Connector for 12VDC

3-Way Fan Speed Selector

ON/OFF switch

Earth Connection - this must be connected to meet FELV standards.

Notes

Notes

Operation and Controls continued

Electrical Connection

- The 2050 is powered by 12V DC.
- The 12V connector is on the reverse face of the 2050. It is an M8 3 Pin connector.
- A 100-240V 47-63Hz 12V DC Power Supply is supplied with the Blower. It has 2m of cable and an IEC320 connector.
- If the customer wants to provide his own 12VDC supply it is important to note that the return line must be connected to an earth.
- The supply must be min 10V max 12.8V and able to supply 1Amp.

Earth Connection

- The 2050 must be connected to earth to meet FELV regulations
- There is an M5 threaded connector on the rear side of the 2050.
- A 2m earth lead with M5 ring connector is supplied with the 2050.

ON/OFF

- Push-in switch on rear side.
- Operation is shown by green LED on front face

Fan Speed/ Airflow

- The fan is an EBM Pabst Z4412F rated at120,000 hours at 20°C 60,000 hours at 40°C. Ball bearing operation.
- Maximum airflow: 170m^3/hr (100cfm)
- Airflow regulated by 3 speed switch.

Ionisation

- The 2050 is factory set to +/-10V and should hold a +/- 30V balance reasonably well, though this is not guaranteed and should be checked if this is critical. There is no automatic balance adjustment.
  The balance can be affected by a number of factors - distance from material, humidity, state of emitters etc.
- The electrical balance in the ionised air can be adjusted by the 2mm flat screwdriver blade in the ADJ socket on the rear face
- Performance: At a distance of 300mm reduces a 20pF charge plate from 5kV to 500V in under 1 second.
- If there is a fault on the high voltage ionisation generation the LED on the front face shows red instead of green.

Environment

- Temperature 0 - 60°C. Max humidity 70% non-condensing.
- Noise at 1m: low speed 45dB(A); high speed 56dB(A).
- Ozone production is less than 0.1ppm.

Notes

Mechanical

Body: Extruded aluminium, anodised.
Aluminium plate, powder coated.

Swivel Stand: flexible mounting
Stainless steel stand with possibilities.
The swivel stand can slide in the slot on each side of the 2050 to allow a wide variety of mounting positions, such as: -

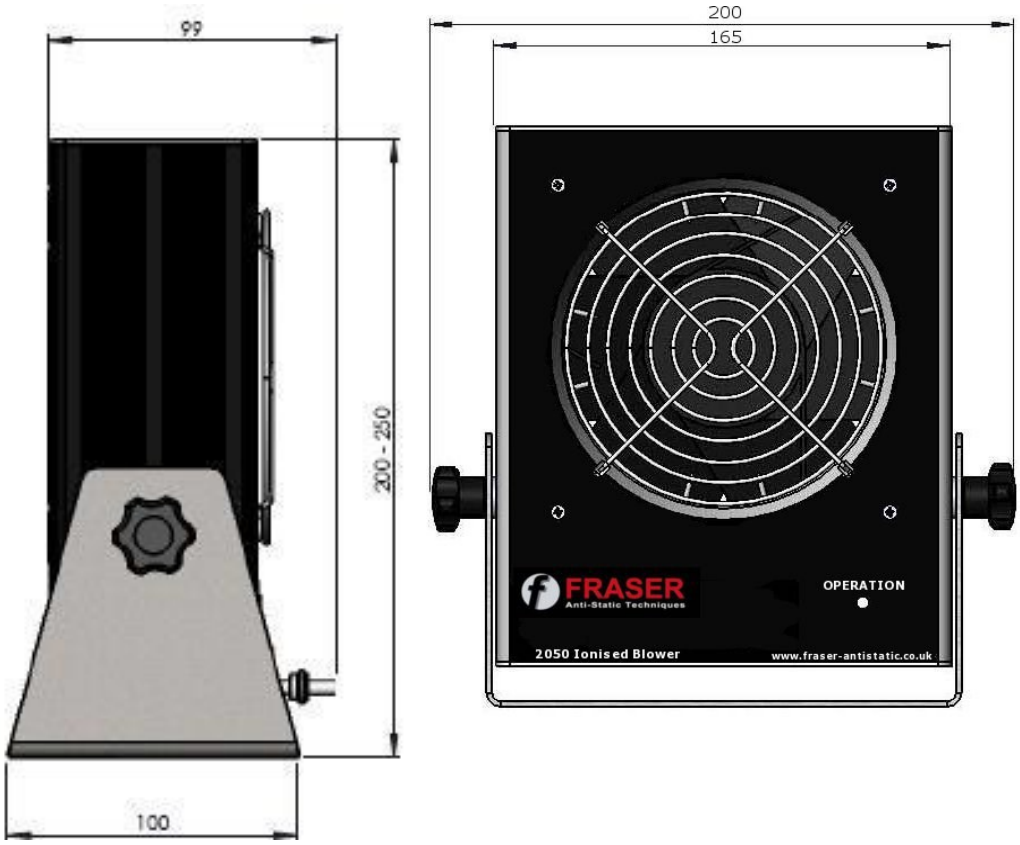
Internal Cowl: Flame resistant ABS

Emitters: Eight titanium emitters in stainless steel body. These are designed to last for 10 years, but are replaceable, if required.

Dimensions: As sketches below

Weight: 1.9kg

Filter: Optional at time of order, with replaceable element. See price list.



Notes

Larger 2050 Models

For details of these 2 / 3 / 4 fan versions of the 2050, please see datasheet.

Notes

Applications and target markets for 2050 Blowers

Although this type of Blower is generally targeted at the electronics market for use on assembly and test benches, 2050 Blower can be used throughout industry. It is built to a higher specification and is more economical than most competitive products. This allows it to be used in a variety of long range and wide area applications.

Outside of the electronics industry most 2050 Blowers are used for long range static neutralisation to prevent product misbehaviour. In the moulding industry they are widely used to prevent dust attraction. 2050 Blowers cannot remove dust - their airspeed is too slow, but they can prevent dust contamination by reducing the charge below the dust attraction level.

Usually the choice is between Ionstorm and Jupiter, 1250Air Air Boost bars and Blowers.

The relative benefits of each are:

2050 Blower
- Relatively Low Purchase Price
- Low Running Cost
- No external Power Unit

2010 Blower
- Heavy duty, industrial model
- More powerful ionisation and longer lengths.
- More expensive.

1250-Air
- Relatively Low Purchase Price
- Compact
- Higher running cost - due to compressed air
- External Power Unit can serve more than one

Ionstorm and Jupiter
- No air movement
- Available in longer lengths
- Possibly easier to install
- 24V DC or 230/115V AC supply.

The occasions when Blowers and Air-Boost Bars are better than pulsed DC are:

- Where ionised air has to travel past metal machine parts. The ions from Ionstorm will be attracted to the metal parts, while the blower will have the airspeed to blow the ions past them. A blower has more penetration.
- If there is moving air in the application a blower may be more effective for the same reasons as above.
- Some customers like the reassurance of the traditional blower - they can feel the air movement.

Notes

Main Markets

Based on our sales figures for 2020 and smaller 2000 Blower, our sale by market, excluding electronics, are:

Automation	34%	Misbehaviour of products on automatic assembly machines, bowl feeders, robots.
General	23%	General industry, or where we have no information on the application.
High Tech	15%	Technology companies making assemblies or neutralising special materials.
Medical:	12%	Plastic mouldings and assemblies in the medical and pharmaceutical industries.
Plastics:	9%	Mouldings, especially on conveyors or collection bins.
Print:	5%	Screen and pad printing, RFID labels, winders.
Optics:	2%	Lenses.

Sales Points against Competition

Our 2050 family will never be the cheapest product on the market. We have designed them to have a long and reliable life. Many of the cheaper products on the market have a life of 6 months and are regarded as disposable products. The 2050 is designed to have a long life of reliable high performance.

The main sales points are:

Ionisation:

We have eight (8) emitters working at up to 6kV. This produces more ionisation than competitors. Our charge decay time of less than 1 second to reduce a 5kV voltage to 500V is real. We have never been able to match the performance of our competitors with their claims.

Emitters:

Made from Titanium for a long life, but can be replaced if they become damaged. Titanium is also clean and suitable for many cleanrooms.

Fan:

The EBM Pabst fan we use is ten times the cost of fans used by competitors. They are rated at 120,000 hours at 20°C. Cheap fans last for 6 months.

Notes