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# **FDRS**

Fine dust reduction system

www.staticair.com



**Get In Touch** 

**Call:** 0845 6880112



Email: info@adremit.co.uk

#### **Our Address**



## **StaticAir**

StaticAir is a young company that focuses on the development and production of fine dust reduction systems. StaticAir has aquired unique patents. These patents and our knowledge about fine dust form the basis of our range of fine dust reduction systems.

Our products are easy to use and require a very low energy consumption. The systems developed by us are suitable for both indoor and outdoor use.

StaticAir is a part of Mark Climate Technology. Mark is market leader in indoor climate control and brings over 70 years of international experience.

It is our mission to create a fine dust free living and working environment at the lowest possible costs.





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### Fine dust

Fine dust is a form of air pollution. Fine dust includes airborne particles smaller than 10 micrometres (0.01 mm) that differ in size, origin and chemical composition. On the basis of its size, fine dust is reffered to as PM10, PM2.5 or PM0.1 (ultrafine dust). The composition of fine dust is very variable. Common components of fine dust include metals, carbon (carbon black), nitrate and ammonium.

Research outcome indicates that fine dust inhalation is hazardous to health\*. Worldwide tens of thousands of people die earlier because of exposion to fine dust in the air or in the working environment. The chronic exposure of people with a respiratory disease and cardiovascular disease to fine dust worsens their symptoms and it hinders lung development of children. The fine dust standards are exceeded in many places, especially along busy roads and in cities by vehicle emissions and heavy industry. Fine dust can travel up to 40 km and isn't only located at the source but also far away from it. Also, a far too high concentration of fine dust can be generated by processes within the working environment.

\*Air pollution and health (Brunekreef and Holgate, 2002). Health effects of fine particulate air pollution: lines that connect (Pope and Dockery, 2006)

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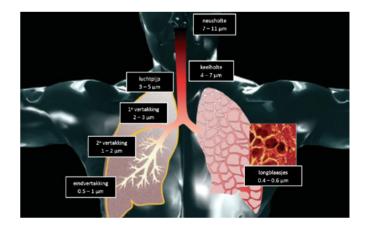
#### Effects on health

When inhaled, the small airborne particles end up in the lungs. Dust particles larger than 10 microns (one hundredth of a millimetre) can be retained by the nose and excreted through the mucous membrane. But smaller fine dust particles reach deep into the lungs and cause damage there. Ultrafine dust even penetrates into the blood circulation.

These small particles can cause inflammatory reactions and complicate the absorption of oxygen. In addition, fine dust increases the risk of a heart attack and lung cancer. Neurological effects of fine dust have also been found, as a result of which the cardiac muscle function can be negatively influenced. In people with respiratory diseases and cardiovascular diseases exposure to fine dust worsens their symptons.

Several studies show that every year tens of thousands of people die prematurely from short-term exposure to fine dust. The average life expectancy decreases due to exposure to fine dust by about a year\*. In addition to premature death, fine dust also plays an important role in cases of illness. Exposure to fine dust causes an increase in hospital admissions, complaints and absenteeism at work.

\*Dossier Fijn stof (RIVM, 2013)





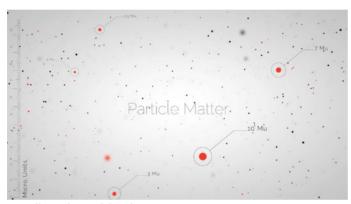




## The effect of StaticAir's concept

StaticAir systems reduce the fine dust concentration in the immediate vicinity. Our products contain corona wires on which a positive high voltage is applied. The corona wires emit a positive charge. Fine dust is ionized by the charge and is attracted by a grounded plate. The frame, which is connected to the electrical earth, creates an electric wind that runs from the wire to the plate. This function ensures that the fine dust is attracted and deposited on the grounded back plates. In this way, no ventilation is required.

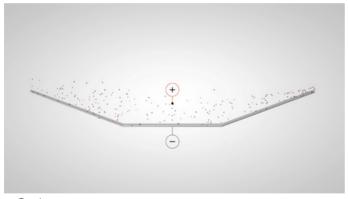
StaticAir systems work with direct current, which means they do not affect other systems. The ultra low current is safe for humans and animals and is very energy efficient. With up to 18 watts per system, up to 30 procent of the fine dust can be captured in outdoor areas, and up to 80% in indoor areas. The energy supply comes from the normal electricity grid. This system is unique for actually capturing fine dust at low costs.



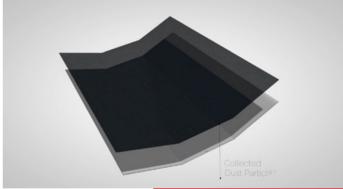
1. Polluted outside air



2. Positively charged wire and grounding plate



3. System on



4. Gathered dust



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## **Features of FDRS**

- Possible fine dust reduction of up to 80%\*
- "Plug and Play"
- Easy control with LED indicator
- Long service intervals
- Safe for humans and animals
- Contributes to a low rate of health-related absenteeism
- Noiseless

## **Specifications of FDRS**

- Power supply: 230V/110V
- Low power consumption: 18 Watt
- Weight: 70 kg
- Wall mounting
- Watertightness classification: IP 65

#### Optional

- Connection with management system:
  - I/O contacts
  - LoRa (wireless)
- Topside closed
- Removable dust tray
- Ceiling mounting
- Customized color



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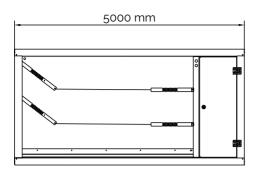
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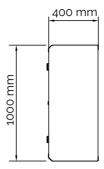


<sup>\*</sup> depending on environmental conditions



## **Dimensions of FDRS\***









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<sup>\*</sup> Customized size possible





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