Dust Removal System

ECOstream
Dust Removal System

System description

The **ECO**stream surface cleaner has been specially developed for dust removal on tissue, textile and non-woven applications. It adopts a revolutionary approach which improves quality, reduces down time and boosts profitability. **ECO**stream combines the latest aerodynamic nozzle technology with a defined high speed vacuum airflow, and substrate ionization located prior to cleaning, within one turnkey system. It is positioned over the free web and as close as possible prior to the problem zone.

The development of this system is based on technology used in aviation and aerospace research where, through the use of specially shaped edges and profiles, the air is forced in a certain direction at extremely high velocity.

The **ECO**stream is available for use on web widths from 50mm up to 10 meters in either a single or a dual side surface cleaning configuration. The compact design minimizes the space requirements for installation.

Our experienced application engineers can evaluate your machine and propose a solution for the implementation of **ECO**Stream into your production process.

**System cleaning efficiency comparison**

- **ECO**stream: ~750g / hour
- Conventional dust removal system for tissue application: ~250g / hour

![Module position on web](image1.png)

![Central filter system](image2.png)
Technology

The special aerodynamic nozzle of the ECOstream is located in close proximity to the substrate. It generates, through the combination of vacuum in the cleaning module, web speed and contact friction, a high velocity air flow. This airflow removes the particles from the surface and transports them through the cleaning module to a filter unit. Even the highest of dust amounts and slightly attached particles and fibres will be successfully removed.

Ionization

In many cases electrostatic charge present on the substrate surface is a major factor in increasing contamination and makes particle removal more difficult. It is well known that insulating materials such as film generate static charges by friction. This electrostatic charge also increases the bond between the particles and the substrate surface. The electrostatic charge can attract additional particles which are in close proximity to the substrate surface. The smaller the distance between particle and substrate surface, the greater is the force of the electrostatic field holding the particle down. This is why our static control system is always installed prior to the cleaning process to guarantee a neutralised substrate surface and therefore facilitate easier removal of all particles by the ECOstream.

ECOstream System advantages

Application:
• Removes > 92 % of loose particles > 30 µm
• Can be retrofitted to all machine types
• Wear free, minimised maintenance
• Low investment cost
• Easy installation

Economical:
• Increased profitability
• Reduced waste and down time

Ecological:
• No consumables, no washing liquids
• 30 % lower energy consumption compared to other systems in its class