

# eLine Electrostatic Separator



**Standard for clean air**

As an example, during die casting processes, extremely adhesive emissions are created - a real challenge for every filter

**Efficient separation of adhesive, highly viscous aerosols from process exhaust air**



eLine separates aerosols so well that the cleaned air can be recirculated back into the production plant

# eLine Electrostatic Aerosol Separator – maximum efficiency 24/7, with integrated cleaning technology

## Keller stands for the efficient cleaning of process exhaust air in adherence with limit values

Various processes result in a diverse composition of process exhaust air. Generally, the resultant particulate can be dry, damp or occasionally adhesive.

Adhering to limit values for air pollution control basically requires continuous, long-term functionality of the separator and all its corresponding system components in order to effectively discharge process emissions.

However, process parameters can vary, requiring experience and flexible system reconfiguration options.

Keller has developed specialized filtration and extraction technologies geared toward individual requirements.

## The eLine electrostatic separator proficiently filters out adhesive, highly viscous aerosols

Adhesive aerosols are produced during die casting processes or screw machine thread rolling, a result of the addition of a separating agent or lubricants. eLine reliably and efficiently separates such emissions.

## Single exhaust with hood

In die casting machines with an open design, the suction through a single or multi-part hood offers the best results.

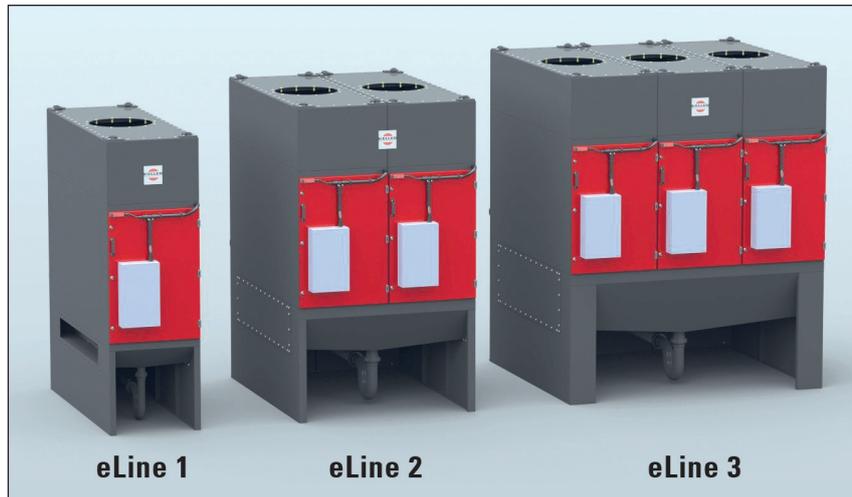
With single suction, the eLine separator can be positioned directly onto the hood frame in order to save space.

## A modular design

The eLine electrostatic separator was designed as a flexible and scalable high performance module.

The modular design allows central separation systems with shared functions.

For uninterrupted operation 24/7, an additional module can be installed to bridge the cleaning cycle.



eLine separators are available in three sizes

## Technical data

| Model                             | eLine 1   | eLine 2            | eLine 3            |
|-----------------------------------|---|--------------------|--------------------|
| Max. air flow (m <sup>3</sup> /h) | 5000  | 10000              | 15000              |
| Sound (dB(A))                     | < 75  |                    |                    |
| Weight (kg)                       | 1000  | 2000               | 3000               |
| Dimensions (L/B/H) (mm)           | 750 x 2300 x 2300   | 1500 x 2300 x 2400 | 2250 x 2300 x 2500 |
| Optional rinsing device           | To clean collector surfaces from adhesive particulate during system downtimes<br>H13 filtration efficiency > 99.995 % |                    |                    |
| Optional secondary filter stage   | H13 filtration efficiency > 99.995 %  |                    |                    |

**Charging of a  
dhesive emission  
particulate and  
settling on the  
plate electrodes**

Directing the process exhaust air into the Ionizer statically charges the emission particles.

When ascending into the electrified field with densely fitted plate electrodes, the particles drift to the collecting electrodes and discharge their energy. Adhesive particles and all other pollutants cling to form deposits that must be removed at regular intervals.



The separation principle is based on the fact that positively charged particles and similarly charged plates repel each other.

**Automatic  
cleaning**

The eLine is equipped with optional fluid cleaning.

Collector plates, as well as the ionization chambers and rectifying demisters, are cleaned of emission deposits by an automatic cleaning cycle. This is

achieved in an environmentally-friendly manner by recycling the cleaning water inside a circulating system with automatic sedimentation of suspended matter.



The automatic cleaning system largely relieves the operator of burdensome cleaning work.

**Clean air  
recirculation**

The eLine electrostatic separator was designed for the return of clean air back into the production plant in compliance with regulations. Efficient venting outdoors is also feasible.

Long-term stability is of significant importance when rating comparisons.

**Utilizing process  
heat**

Energy-saving regulations ENEC 2014 (EU) and ENER 2013 (BRD) mandate the use of heat recovery systems in ventilation and air conditioning systems, and units with air flows over 4000 m<sup>3</sup>/h.

We can meet these requirements with our thermal energy recovery system ProTERM, even if the clean air is vented outdoors, if this is required.

## **Conceptual consulting**

The efficient separation of process exhaust air and the effective separation of emissions, while taking into consideration all the existing standards and regulations are highly complex issues. Keller will support your designs and projects with our extensive knowledge.

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