



E-SCRUB V.2 NEW-GENERATION ELECTROSTATIC OVERSPRAY SEPARATION SYSTEM

THE NEW VERSION OF E-SCRUB, THE PROVEN ELECTROSTATIC OVERSPRAY SEPARATION SYSTEM, IS EASY TO OPERATE AND SIMPLE TO MAINTAIN.

Eisenmann's environmentally friendly and resource-saving E-Scrub system is very popular with customers. Compared to conventional systems, the energy-efficient E-Scrub requires a very low differential pressure in the air flow system. Water consumption, particulate emissions and waste quantities are all significantly lower than with other systems. The new generation of this proven electrostatic overspray separation system is now simpler to operate, more maintenance-friendly, and less dirt-prone.

How it works

E-Scrub v.2 exploits the same principle as its predecessor. Overspray-laden exhaust air flows through the intake area to the separation module. As the air passes through the module, overspray particles are removed. As the system achieves a very high degree of separation, the spray booth can be operated with recirculated air. A large proportion of the scrubbed air is sucked in by a recirculation fan and returned to the booth. Depending on the exhaust air's solvent load, a portion of it is removed from circulation and replaced with fresh air.

Separation modules comprise an alternating arrangement of active and passive elements. In the active elements, a corona cloud forms under a high voltage, charging all paint particles. These particles are then attracted to the passive, grounded separating plate. This is covered with a thin layer of separating agent by a coating system installed above it. The paint particles are bonded to the separating plate and detackified by the separating agent. The agent containing overspray flows into the collection tank below the E-Scrub system. From there, it is returned to the coating system via the system tank. Part of the agent is scrubbed of overspray by a discharge system and returned to the separating agent cycle.

High-voltage contact established automatically

All elements that create the high-voltage contact for the modules have been moved to the rear of the system. A simple plug-in

mechanism for each individual separating module automatically connects it to the high-voltage supply. As a result, no connections between the active module, voltage supply and communications have to be made manually.

Simpler separating agent supply

Until now, rollers were used to coat the active modules with separating agent. In version 2, these have been replaced by an expansion tube, eliminating the need for moving parts in the separation mechanism and making the system less prone to dirt. Moreover, the coating system can be more compact, lowering the modules' air resistance.

Optimization of the peripheral separating agent supply system has simplified the piping and reduced the number of supply pumps. An improved transition from the separation system to the collection tank decreases the evaporation rate of the agent and the humidification of the air.



New-generation electrostatic overspray separation system.

E-SCRUB V.2

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OUR SEPARATION SYSTEMS

Separation system	3-stage dry filter	E-Cube	Venturi (circ.)	E-Scrub
Type	Simple, for small systems	Simple, no additives	Standard	Best separation, lowest pressure loss
Overspray capacity	0	+	++	++
Emmissions	0.5 - 2 mg/m ³	0.5 - 2 mg/m ³	< 3 mg/m ³	0.3 - 0.8 mg/m ³
Pressure loss	Rising	Rising	Constant	Constant
Operating and maintenance staff	Unskilled staff	Unskilled staff	Skilled staff	Skilled staff

Advantages at a glance

- Contact to the high-voltage supply created automatically
- Optimized separating agent supply, no moving parts in the separating mechanism
- Lower humidification of the air
- Easy to operate and maintenance-friendly
- High-voltage contact separated from operator's side
- Lower pressure loss
- Lower energy consumption

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www.eisenmann.com

Eisenmann Anlagenbau GmbH & Co. KG, Tübinger Str. 81, 71032 Böblingen, Germany, Phone: +49 7031 78-0, Fax: +49 7031 78-1000

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