Paint separation:
Think green! Think dry!

www.durr.com
October 23, 2019
Bietigheim-Bissingen
# Dürr dry separation family

**Efficient – Robust – Green – Individual**

<table>
<thead>
<tr>
<th>EcoDryScrubber</th>
<th>EcoDry X</th>
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</thead>
</table>

Together we select the best systems for your requirements / expectations from the Dürr dry separation family.
Dürr dry separation family
Think green! Think dry!

Your benefits

- No chemicals
- No bacteria growth
- No special skills needed
- No odor nuisance
- No paint sludge disposal
- Low sound emission
- Low opex
- Low capex
Dürr dry separation family
Efficient – Robust – Green – Individual

Together we select the best systems for your requirements / expectations from the Dürr dry separation family
EcoDryScrubber – Dry overspray separation

Automatic and efficient

- Single stage filter system
- Suitable for all paints
- Fully automatic, self-learning system
- Exhaust air quality < 0.1 mg/m³*
- Low running costs
- Proven secondary raw material life cycle in the cement industry
EcoDryScrubber – Dry overspray separation

Main components of the system

One complete filter module

- Single-stage filter
- Clean gas side
- Limestone motion
- Limestone tank
- Automatic limestone feed and drain from/in silos

Clean gas side
EcoDryScrubber – Dry overspray separation

Filtration of process air with natural limestone as filtration agent

- Cycle-wise whirling of the limestone out of the tank near the filter surface
- Overspray droplets getting captured by limestone particles
- Automatic dedust of limestone-paint mixture
- Renewed whirling, capturing and dedust
- Steady control of the limestone paint saturation
- Limestone changes controlled by intelligent software
Dürr dry separation family
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EcoDry X – Dry overspray separation

Simple and robust

- Deep filtration inside the cardboard filter boxes
- Cardboard filter boxes as a single-use product
- Easy to maintain – Manual system

- Low running costs
- Exhaust air quality upon customer request, standard 1 mg/m³
- Easy handling: from sourcing to disposal
EcoDry X – Dry overspray separation
Filtration process

- Two filter stages
  1. Trolley with filter box and paint stop mat
  2. Bag filters (according to requested air quality)

- Trolley changes strongly depending upon overspray amount, jobs per hour and paint characteristics
  - Typical for 20 jph automotive (PR+BC+CC)
    2-4 trolleys per shift in total
  - Project-specific forecast based on an expected amount of overspray

Storage area: filter boxes
Working area: trolley exchange
2nd filter stage bag filters
1st filter stage = Filter trolley
EcoDry X – Dry overspray separation
Changing a filter trolley

- Central signal light informs about status EcoDry X
- System indicates the filter trolley that needs to be exchanged (based on skid counter or pressure drop)
- Prepared filter trolley is ready for use
- Worker unlocks and exchanges the selected used filter trolley with the prepared fresh filter trolley
- Worker locks the filter trolley to the booth interface

Two Options:
- BASIC – Manual setting of the skid counters
- ADVANCED – Self-learning process with automatic skid counter optimization
EcoDry X – Dry overspray separation
Changing filters

- Push the filter trolley onto the lifting table by hand
- Precise positioning on three different filter levels
- Removal of filter boxes using a rotary table without manually lifting the boxes
- Replacement of filter mats behind
- Disposal in containers
- Inserting new filter boxes
- Sealing with tape
EcoDry X – Dry overspray separation
Dürr filter box X500PV

- In-house development guarantees the best possible efficiency and cost-effectiveness
- Continuous further development for our customers

- Typical paint capacity filter box*:

<table>
<thead>
<tr>
<th>Paint Type</th>
<th>Capacity</th>
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</thead>
<tbody>
<tr>
<td>1K Primer</td>
<td>18 - 20 kg</td>
</tr>
<tr>
<td>WB BaseCoat</td>
<td>8 - 10 kg</td>
</tr>
<tr>
<td>1K ClearCoat</td>
<td>18 - 20 kg</td>
</tr>
<tr>
<td>2K ClearCoat</td>
<td>13 - 15 kg</td>
</tr>
</tbody>
</table>

- Paint tests for better estimation of the filter box performance
- Estimation of operating costs possible

*Note: The information on the absorption capacity is based on empirical values from the Dürr Test Center in Bietigheim, as well as automotive customer plants. These are average values. The final filter consumption depends on the area to be painted, the paint material, the application efficiency, the car body geometry (passenger car), the air conditions, etc. The final filter consumption depends on the surface to be painted. Since all these parameters fall outside Dürr’s sphere of influence, the exact filter consumption cannot be guaranteed.
Dürr dry separation family

References

EcoDry X
EcoDryScrubber

*Total number of paint shops. Some may have more than one line.
Benefits of the Dürr – DrySeparation family

- No chemicals
- No bacteria growth
- No special skills needed
- No odor nuisance
- No paint sludge disposal
- Low sound emission
- Low opex
- Low capex

**EcoDryScrubber**
- Natural limestone
- Emissions: << 0.1 mg / Nm³
- Pressure drop: Constant
- Operation and maintenance: Qualified personnel
- Paint 2nd lifecycle: Recycling in cement industry
- Features:
  - Perfect for fast drying paints
  - Fully automatic
  - Best for high-volume paint shops

**EcoDry X**
- Cardboard filter boxes
- Upon customer request
- Increasing
- Instructed personnel
- Thermal recycling
- Simple, stable process with movable filter trolleys
- Best result with minimal effort
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Wheel painting conference
Think green! Think dry!

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