ECO Melt Filter
polymer filtration
one step ahead
With its unique self-cleaning function, the ECO is the missing piece in your film or compounding extrusion line.

Reduce...
... gels, black specks and other impurities in your film or compound.
... scrap production and customer claims.
... production downtime.

Improve...
... your product quality to be more competitive.
... your production process efficiency.

Increase...
... production line availability for weeks or months without interruption.
... use of recycling material with a lower cost base.
... profit of your product.

Don’t stick with the now. Think one step ahead. Think future. Think ECO.

100% clean filtration surface with every turn.

Your investment in advanced features.

- Continuous operation with constant pressure on inlet and outlet side.
- No screen changes for weeks or months, depending on the material and application.
- Use of up to 100% recycling materials, even of poor quality, will result in an excellent final product.
- Nearly zero operator assistance required.
- 100% filter surface availability during total time in operation.
- Up to 1.5% of contamination content (for higher contamination please see our ERF® filter).
- Completely closed system, no contact of melt to the atmosphere.
- Contamination is completely evacuated from the process.
- Consistent melt flow without dead zones or degraded polymer.
- Processing of all polyolefines, PET and PA.
- Better mixing and homogenizing of highly filled melts.
- Lowest maintenance and labour costs.
Turn. Scrape. Discharge.
3 steps to give filtration a clear definition.

Taking off contamination from the filtration surface and moving them out of the process before they are able to slip through. This principle ensures that the ECO will filter out even gels and elastic particles, as well as all other types of contaminations.

Contaminated plastic melt is flowing from outside to inside through a rotating filter drum with a large number of small conical holes. The contaminants in the melt remain on the filter surface and will be removed by a scraper and forced into the discharge shaft with every turn of the filter drum.

Therefore contamination cannot build up on the filtration surface and cause higher pressure, while particles, like gels, are not pushed through.

Separate control of the rotation speed of the filter drum and the discharge shaft allows you to optimize the filtration result to a maximum in accordance with your specific filtration needs.

Compact size with a small footprint allows you to replace nearly every conventional filter system with the ECO.
High impact on savings in these 2 examples

### PET thermoforming sheet
Continuous creation of black specks in the PET thermoforming sheet, caused by the existing backflush unit during screen bolt movement when backflushing or changing screens, resulted in a significant amount of scrap or off-spec production through the year. PET bottle recycling flake qualities could only be used at a maximum of 30%.

**Process**
- PET thermoforming sheet
- PET bottle flakes
- twin screw extruder
- 2,000 kg/h
- optical control system for quality control

**After installation of the ECO**
- reduced pressure level (70 bar vs. 100 bar)
- black specks reduced by 40 %
- 100 % poor quality PET bottle flakes used
- start up time to achieve in spec production reduced by 50 %

The overall time in operation, without any interruption or operator assistance at constant pressure conditions, is 6 weeks. Total savings due to the improved production efficiency result in a return of investment of less than 18 months.

### TPE compounding line
In the compounding process inside of the extruder, gels and agglomerates were created. These gels and agglomerates were found by the optical control system in the following film extrusion. Too often the number of spots on the surface of the film was over the limits and therefore the film was scrap. Throughput was limited to 1,000 kg/h because of increase of gels and agglomerates at higher capacities.

**Process**
- TPE compounding
- virgin material
- twin screw extruder
- 1,200 kg/h
- optical control system for quality control

**After installation of the ECO**
- surface spots reduced by 60 %
- scrap production reduced by 40 %
- increased output by 20 %

The overall time in operation, without any interruption or operator assistance at constant pressure conditions, is 12 weeks. Total savings due to the improved production efficiency result in a return of investment of 14 months. Less customer complaints and claims on film quality.

### Additional ECO applications
- PET strapping tape.
- Optical sheet for tv or mobile screens.
- Food packaging.
- PET thermoforming sheet.
- TPE-compounding with reactive components.
- Compounds with natural organic fillers (fibers e.g.)
- PET re-pelletizing.
- Film and compounds for sanitary products (diapers e.g.)
- Many others.
## Technical data

<table>
<thead>
<tr>
<th></th>
<th>ECO 200</th>
<th>ECO 250</th>
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</thead>
<tbody>
<tr>
<td>Total filtration surface</td>
<td>1,250 cm²</td>
<td>1,570 cm²</td>
</tr>
<tr>
<td>Filter screen diameter</td>
<td>200 mm</td>
<td>250 mm</td>
</tr>
<tr>
<td>Throughput</td>
<td>up to 1,800 kg/h</td>
<td>up to 3,000 kg/h</td>
</tr>
<tr>
<td>Number of heating zones</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Heating capacity</td>
<td>20 kW</td>
<td>23 kW</td>
</tr>
<tr>
<td>Motor capacity filter</td>
<td>3.8 kW</td>
<td>3.8 kW</td>
</tr>
<tr>
<td>Motor capacity discharge shaft</td>
<td>0.9 kW</td>
<td>0.9 kW</td>
</tr>
<tr>
<td>Speed filter max.</td>
<td>10 l/min</td>
<td>10 l/min</td>
</tr>
<tr>
<td>Speed discharge shaft max.</td>
<td>9 l/min</td>
<td>9 l/min</td>
</tr>
<tr>
<td>Weight</td>
<td>800 kg</td>
<td>1,000 kg</td>
</tr>
<tr>
<td>Operating pressure max.</td>
<td>300 bar</td>
<td>300 bar</td>
</tr>
<tr>
<td>Available filter fineness</td>
<td>60* / 80 / 120 / 150 / 200 / 250 / 300 / 500 / 1,000 µm</td>
<td></td>
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</tbody>
</table>

*under development

... give us a call to find out more!

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