

EcoGentle®

Plasticising technology

Lower temperature, less energy.

The gentle way to recycle.

CHOOSE THE NUMBER ONE.

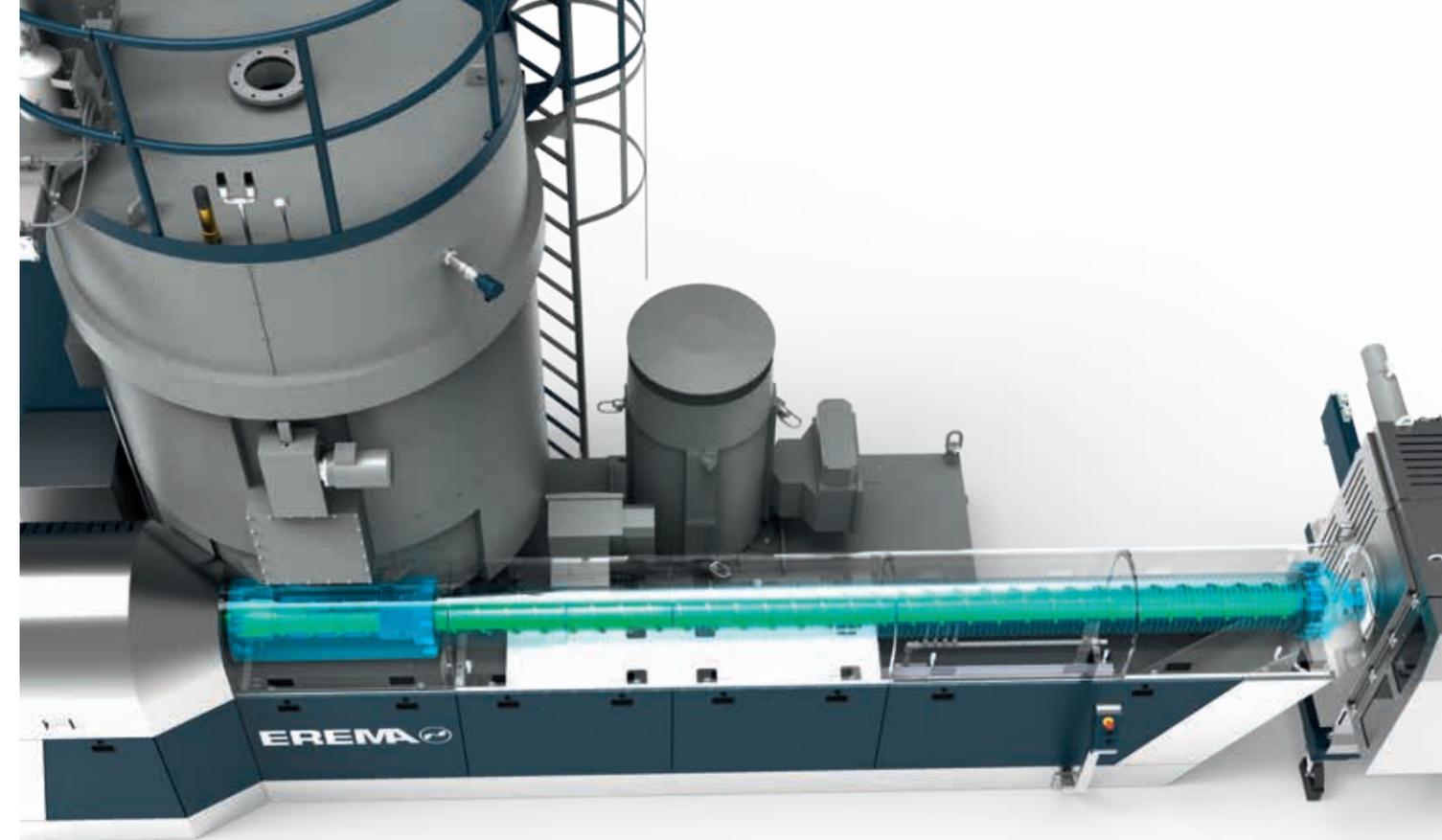
Game-changer EcoGentle®

The new generation of plasticising for recycling inhouse, post consumer, and PET

EcoGentle® redefines the standards in plastics processing: with a much lower melt temperature, noticeable energy savings, and a particularly gentle melt treatment, this technology produces the highest quality recycled pellets while allowing for maximum feed material flexibility.

New: INTAREMA® joins VACUREMA® and VACUNITE® with EcoGentle® as the ideal solution for modern plastics recycling. The innovative plasticising unit combines a unique level of efficiency and quality to sustainably save energy and reduce your production costs.

For maximum cost effectiveness, high productivity, and top-quality end products.



Extrusion the gentle way

Innovative EcoGentle® plasticising technology, in combination with EREMA's proven Counter Current® technology, ensures perfect interaction between the intake section and the extruder screw. Temperature and energy requirements are greatly reduced, while at the same time improving melting and mixing performance in the plasticising unit.

Ingenious process technology. Rheologically optimised.

The core elements of EcoGentle® technology are the adjustment of compression ratios for better solids handling behaviour, the targeted utilisation of shear flows in combination with expansion flows, and a number of other process and rheological optimisations. The perfectly-matched interaction between the shear and elongation flows increases both the melting performance and the dispersive and distributive mixing capacity in the plasticising unit.

Wider process window, more stable operation.

The result is particularly gentle plasticising combined with high melt homogeneity and a wide process window for more stable operation. Variations in parameters such as the bulk density of the input material, its viscosity, and temperature can be compensated as part of the stable process.

EcoGentle® stands for a particularly gentle method of plasticising at lower temperature that saves energy. The much lower melt temperature has a positive effect on the quality of the melt and the quality of the final recycled pellets.

Gentle on the material, strong in terms of effect.

The EcoGentle® advantages at a glance:



MORE EFFICIENT USE OF ENERGY

- Up to 20 °C lower melt temperature
- Up to 12% total energy savings
- Up to 47 % less energy consumption for the extruder drive



HIGHEST QUALITY PROCESS AND MELT

- Gentle melt treatment thanks to reduced melt temperature and gentle, highly efficient melting and mixing
- Stable output with flexible input thanks to extended process window
- Reduced extruder screw pressure downstream of intake section for significantly less wear and longer component service life



PREMIUM COMPONENTS INCLUDED

- Top quality components from 3 S - key components on the EcoGentle® plasticising unit made by the Austrian manufacturing specialists within the EREMA Group



PET RECYCLING

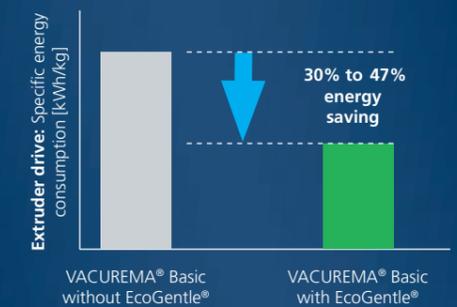
- + Up to 12 % total energy saving*¹⁾ and up to 47 % less energy consumption for the extruder drive**²⁾
- + Reduced AA values (acetaldehyde)
- + High productivity - A new dimension in throughput of up to 6,000 kg/h

*¹⁾ Specific total energy saved using EcoGentle® plasticising unit measured on a VACUREMA® Basic 2628 T
 **²⁾ Specific energy saved powering the extruder drive on VACUREMA Basic systems starting from size 2021



Extruder drive:
 Previous **top energy efficiency** further dramatically **improved**

Compared to a VACUREMA® Basic with conventional plasticising unit (without EcoGentle®), which previously already achieved the best energy efficiency values, a VACUREMA® Basic with the new EcoGentle® plasticising unit consumes **between 30% and 47% less energy for the extruder drive*** - depending on the material properties (specific energy consumption kWh/kg).



INHOUSE RECYCLING LD/LLDPE stretch film



+ Up to 20 °C lower melt temperature^{*)}

+ Up to 10 % less energy consumption for the extruder drive^{*)}

^{*)} LDPE/LLDPE Stretch (MFI 3 g/10 min [190°C/2.16 kg]), with INTAREMA® 1108 T



LD/LLDPE stretch film

INHOUSE RECYCLING BOPET film



+ Up to 18 °C lower melt temperature^{*)}

+ Up to 15 % less energy consumption for the extruder drive^{*)}

^{*)} BOPET (IV 0.54-0.55 dl/g) with INTAREMA® 1714 T-DD with the same IV performance



BOPET film

POST CONSUMER RECYCLING

+ Broader spectrum of materials can be processed

+ Full throughput capacity with multipurpose HDPE/PP regrind

+ Up to 13 °C lower melt temperature^{*)}

+ Up to 6 % less energy consumption for the extruder drive^{*)}

^{*)} HDPE regrind (MFI 2.9 g / 10 min [190°C / 5kg]), with INTAREMA® 1108 TVEplus®



HDPE regrind material



PP regrind material



Every day, I see the difference EcoGentle® makes to PET at our customers' sites: the melt temperature drops noticeably, energy consumption is significantly reduced, and melt quality reaches a new level – with less shear, less discoloration and significantly lower AA formation. EcoGentle® is a real game-changer for our customers' performance."



Christoph Wöss
Global Sales Director, EREMA

Headquarters & Production Facilities

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