Press release

The trend is towards big plants and the highest quality recyclate

Demand for EREMA PET recycling technologies continues to grow

The recycling of PET bottles has gained worldwide acceptance over the past 20 years and has become a model for the circular economy in plastics. This development has been driven forward by EREMA's bottle-to-bottle innovations. The Austrian recycling machine manufacturer has set new standards in this respect time and again, particularly with their VACUREMA® technology, which is the heart of the new VACUNITE® process. As a result, PET bottles with a high recyclate content - a feature indicated clearly on the label - are now an increasingly common sight on shop shelves. The demand for EREMA's innovative PET recycling technologies is growing worldwide across the entire PET segment.

Ansfelden, 15 December 2020 - "Despite declining sales of beverages due to the Corona pandemic and a tense situation in the recycling industry accounted for by the fall in the price of virgin material, interest in our PET recycling technologies remains high," reports Christoph Wöss, Business Development Manager at EREMA Group GmbH. One of the reasons for this is the advanced technologies that combine high product safety, stable processes and cost effectiveness. Another reason is that all well-known brand manufacturers, policy makers and society in general are now committed to making plastics recycling and the circular economy work. The EU has set out its position on this topic with targets for recycling quotas and minimum recycling levels in PET bottles.

EREMA estimates the total capacity of all PET recycling machines sold to date for various applications at 2.6 million tonnes per year, with the recent trend pointing clearly towards large-scale systems processing 2,000 kg/h upwards. A recycling system installed in Mexico this year is outstanding in this respect. It consists of two VACUREMA® BASIC T machines with a throughput capacity of 4,000 kg/h each and Solid State Polycondensation (SSP). "The customer is planning an annual production of up to 60,000 tonnes of food contact compliant rPET. These are the largest systems we have ever built, but our order books already have an order for an even larger one," says Christoph Wöss.

EREMA Engineering Recycling Maschinen und Anlagen Ges.m.b.H.
Unterfeldstrasse 3, 4052 Ansfelden, AUSTRIA
Phone: +43 (0)732 / 3190-0, Fax: +43 (0)732 / 3190-23, erema@erema.at, www.erema.com
UID/VAT No.: ATU22536003, FN 83762 f Landes- als Handelsgericht Linz, DVR: 0898473

EREMA is particularly satisfied with the market success of the innovative VACUNITE® technology, which redefines the benchmark for performance in bottle-to-bottle. In just under two years, the energy-efficient system, developed in cooperation with Polymetrix, has already been sold to 13 customers worldwide. The VACUNITE® process combines vacuum and nitrogen technology, ensures maximum decontamination efficiency and, with the best rPET colour values, also ensures that higher proportions of rPET are possible in the bottle end product. One of these systems was recently commissioned at the RCS Group in Germany. Alexander Rimmer, Managing Director of the RCS Group, is more than satisfied with the quality of rPET it produces, because "our tests prove that we achieve values for all potential contaminants that are significantly below our target values or are not detectable at all."

The right recycling solution for every PET application

Growth is driven by more than the positive development of the bottle-to-bottle sector. Processing PET flakes directly into preforms (flakes-to-preform) or film in a single processing step - made possible using the Multi Purpose Reactor, which can be installed as an upgrade to existing film extrusion lines (bottle-to-sheet) - and especially into recycled pellets for the textile industry (bottle-to-POY) also boosts demand in this segment. In total, EREMA was able to deliver 42 plants with a total capacity of 643,000 t/a within one year between October 2019 and October 2020. This is roughly equivalent to the total capacity of all PET recycling machines sold from 2011 to 2018 and shows that capacity is continually increasing while highlighting EREMA's position as an innovator and market leader.

Extended all-inclusive service package for bottle customers

Following the successful development of the PET recycling sector of the market, the number of specialists in the process engineering and commissioning teams working on these plants is also growing. As a service to customers, EREMA specialists take on the task of applying for assessments of the respective recycling process by the European Food and Safety Authority (efsa) and provide advice and support in the preparations for the approval procedures required for the production of food contact compliant rPET. Finally, following the expansion of manufacturing and office space, the customer centre at the company headquarters in Ansfelden is also currently being expanded. Material tests using the VACUNITE® process will also be carried out on-site at EREMA, starting hopefully during the first half of 2021.

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Phone: +43 (0)732 / 3190-0, Fax: +43 (0)732 / 3190-23, erema@erema.at, www.erema.com
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Research and development

In order to develop and implement closed-loop systems comparable to the bottle-to-bottle cycle for other types of packaging, EREMA is involved in various research projects such as PET2PACK and CORNETPolyCycle. PET2PACK is working on the development of PET rigid recyclates that are approved for use in food packaging. CORNETPolyCycle focuses on the development of a test strategy for the comprehensive safety assessment of plastic polymer recyclates that will pave the way for recycled polyolefins and polystyrene to be used in packaging with direct food contact. "We expect the intensive cooperation with our research and development partners in projects like these to give us important insight over the coming years to further advance the recycling industry," says Michael Heitzinger, Managing Director at EREMA.

Caption:

Michael Heitzinger (Managing Director, EREMA) Christoph Wöss (Business Development Manager EREMA Group GmbH) and Patrich Rachinger (Product Group Manager, EREMA) at the site of the new customer centre, where a VACUNITE system for material test runs is being installed. Photo: EREMA

EREMA Engineering Recycling Maschinen und Anlagen GmbH

Since its founding in 1983, EREMA Engineering Recycling Maschinen und Anlagen Ges.m.b.H has specialised in the development and production of plastics recycling systems and technologies for the plastics processing industry and is regarded as the global market and innovation leader in these sectors. The company is part of the Austrian group of companies EREMA Group GmbH based in Ansfelden/Linz, which employs around 600 people worldwide.

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UID/VAT No.: ATU 22536003, FN 83762 f Landes- als Handelsgericht Linz, DVR: 0898473

For further information please contact
Daniela Jung
Corporate Communication
EREMA Group
Unterfeldstraße 3
4052 Ansfelden, AUSTRIA
Phone: +43 (0)732 3190-315
Email: public.relations@erema-group.com