English

TwinPro

Recycling system with integrated twin screw extruder for thermoplastics

Outstanding flexibility in terms of bulk density & highly efficient homogenisation

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EREMA®
PLASTIC RECYCLING SYSTEMS

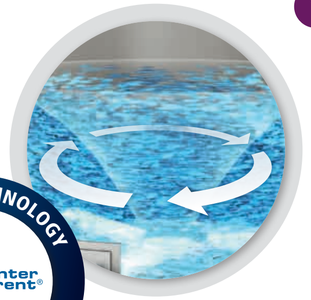
TwinPro

Direct combination of Preconditioning Unit and twin screw extruder:

Flexible in terms of bulk densities. High efficiency homogenisation.

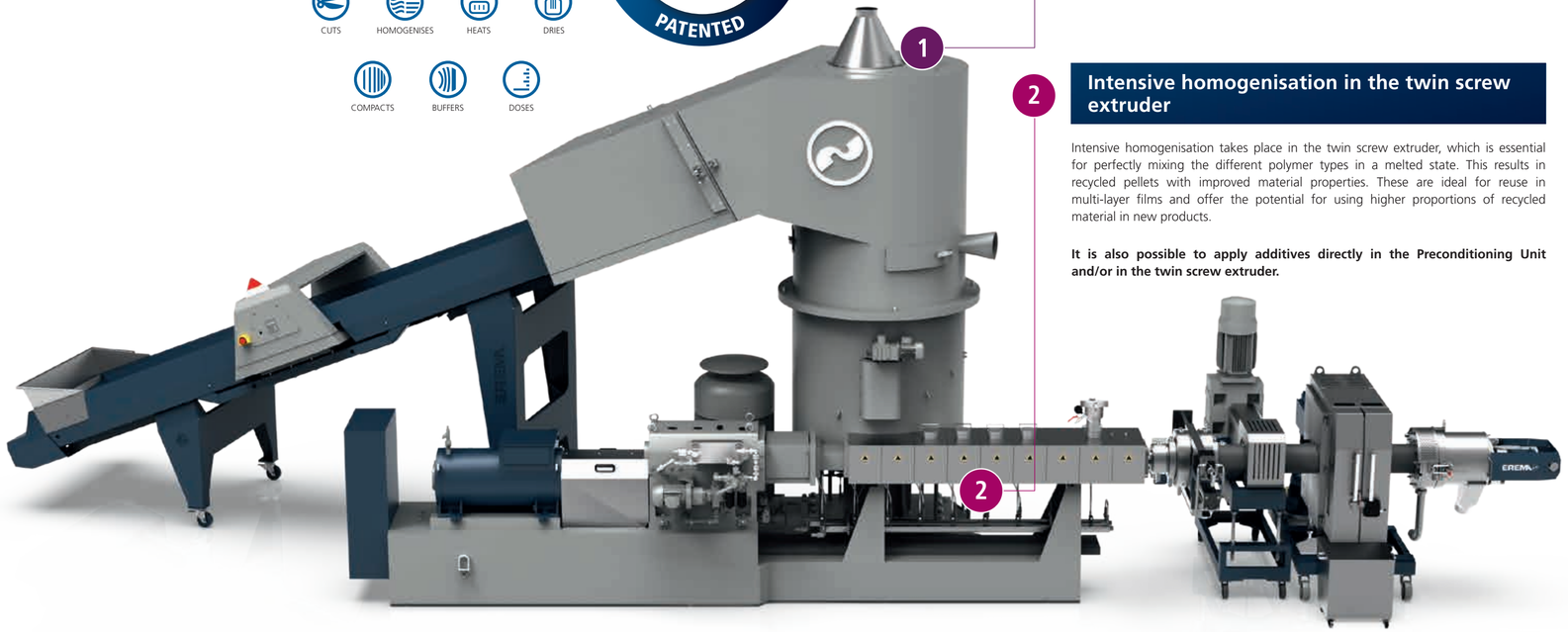
The new TwinPro system from EREMA combines all the advantages of twin screw extruders with those of the Preconditioning Unit (PCU) - proven a thousand times over - including the strengths of the unique Counter Current® technology.

This innovative technology is the perfect solution for recycling production waste involving demanding multilayer films. The technology also opens up new perspectives for thin-walled post consumer regrind material.



CUTS HOMOGENISES HEATS DRIES

COMPACTS BUFFERS DOSES



1 Perfect material preparation in the PCU

The first stage of homogenisation takes place in the Preconditioning Unit (PCU), which shreds, heats, dries, compacts and buffers the input material. Thanks to the unique patented Counter Current® technology, the twin screw extruder is continuously filled with heated and pre-compacted material. Because the material is preheated in the PCU, the twin screw extruder can handle the melt much more gently. This significantly reduces the shear forces in the process and is a clear advantage for the melt quality.

The finely tuned degassing process begins in the Preconditioning Unit (PCU). This effectively removes highly volatile odours even before the material reaches the extruder. Ultimately, optimising material preparation right at the start of the recycling process lays the foundation for consistently high quality end products.

Operates reliably even at low bulk densities
The PCU covers an exceptionally wide bandwidth of input materials, with bulk densities of 30 to 400 grams per litre processed efficiently in a single work step, without the need for separate agglomeration, weighing or a stuffing unit.

2 Intensive homogenisation in the twin screw extruder

Intensive homogenisation takes place in the twin screw extruder, which is essential for perfectly mixing the different polymer types in a melted state. This results in recycled pellets with improved material properties. These are ideal for reuse in multi-layer films and offer the potential for using higher proportions of recycled material in new products.

It is also possible to apply additives directly in the Preconditioning Unit and/or in the twin screw extruder.

Recycling production waste: Focus on multilayer films

High performance processing of feed material with low bulk densities and efficient homogenisation of the melt

The TwinPro system from EREMA delivers highly efficient homogenisation. This is decisive for producing high-quality recycled pellets using complex input materials such as multilayer film consisting of PE-PA and PE-EVOH.

Thin-walled
PP regrind material

Post consumer recycling: Focus on thin-walled PP regrind material

Full control over low bulk densities and fluctuations in moisture

The TwinPro opens up new possibilities in the recycling of 3D packaging. It even processes very thin-walled material such as sorted and hot-washed PP flakes from yoghurt beakers reliably. What is more, the new EREMA system can easily recycle the type of thin-walled packaging that often causes problems in the material feed on conventional twin screw systems because of its low weight and high volume. The PCU copes with fluctuations in moisture, removes residual moisture and starts a finely tuned degassing process that removes volatile odours for consistently high quality recycled pellets.

TwinPro advantages:

High-performance material preparation, efficient homogenisation

RECYCLING PRODUCTION WASTE

- **Ideal for multilayer films** such as PE-PA and PE-EVOH

The advantages of the PCU with Counter Current® technology:

- Efficient feed and processing of materials with **a very low bulk density at full capacity throughput possible**, such as with **light low density film**
- **High flexibility in terms of bulk density (30 - 400 g/l)**
- **Equalises fluctuations in moisture** (caused by storage outdoors, for example)

Thorough homogenisation, powerful degassing:

- **Initiated in the Preconditioning Unit and completed in the twin screw extruder**

Space-saving, compact system

POST CONSUMER RECYCLING

- **Ideal for thin-walled 3D packaging**

The advantages of the PCU with Counter Current® technology:

- Efficient feed and processing of materials with **a very low bulk density at full capacity throughput possible**, such as with **sorted hot-washed PP flakes from thin-walled yoghurt beakers**
- **High flexibility in terms of bulk density (30 - 400 g/l)**
- **Removes residual moisture from the washing process, equalises fluctuations in moisture**
- **PCU degassing reduces volatile odours at an early stage**

Thorough homogenisation, powerful degassing:

- **Initiated in the Preconditioning Unit and completed in the twin screw extruder**

Space-saving, compact system

Headquarters & Production Facilities
EREMA Engineering Recycling
Maschinen und Anlagen Ges.m.b.H.
Unterfeldstrasse 3 / 4052 Ansfelden / Austria
Phone: +43 (0)732/31 90-0
erema@erema.at / www.erema.com

For worldwide subsidiaries and representatives please visit www.erema.com

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