



# COREMA®

Recycling & compounding in a single processing step

CHOOSE THE NUMBER ONE.

# COREMA®

## Customised plastic recyclate from inexpensive recycling raw material.

When recycling plastics from in-house or post consumer waste there are inevitably quality fluctuations which often limit the amount of recyclate in the end product. The solution lies in systematic **upcycling**, i.e. the combination of recycling and compounding. This enables you to optimise the property profile with precision according to your requirements.

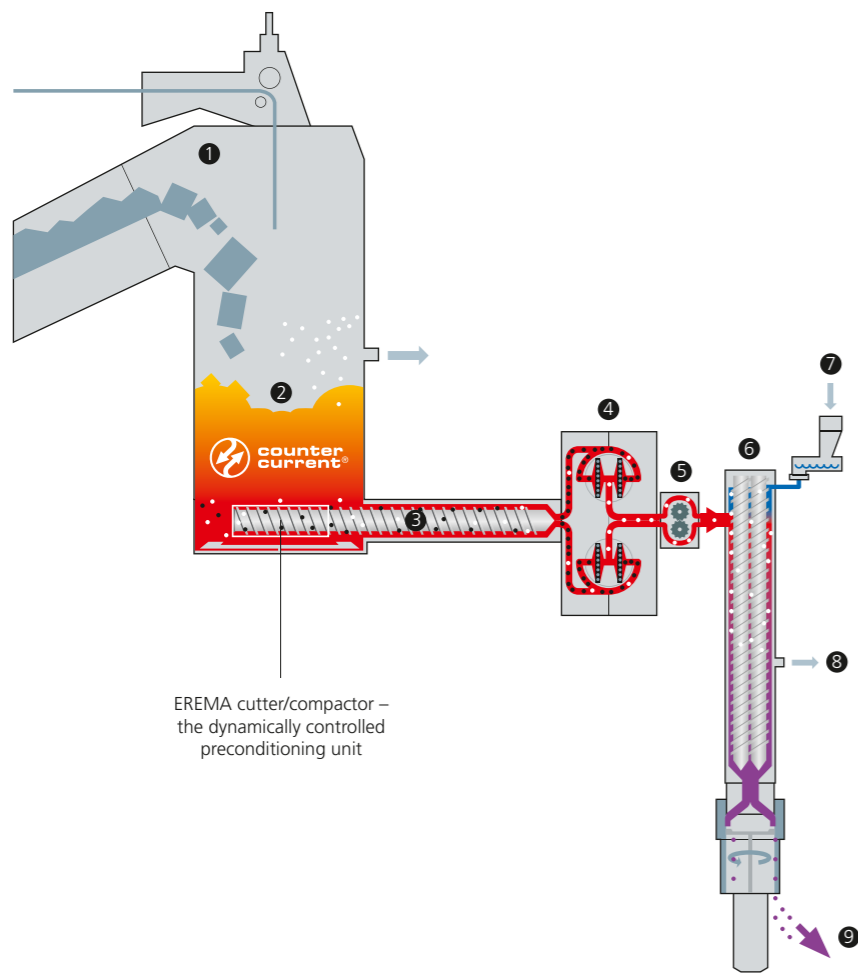
COREMA® brings together all the benefits of recycling and compounding in one system for the first time. The proven, robust EREMA technology is used to turn recycling raw material (e.g. PP nonwoven, PE edge trim, PA fibres etc.) into a filtered melt which then goes directly to a co-rotating twin-screw extruder. With its excellent mixing and gas removal properties, this part of the system can handle all compounding tasks.

Besides the dosing of a **wide variety of additives, fillers and reinforcing agents** can be admixed in doses that are higher than those previously possible with EREMA recycling systems. The result is **customised plastic recyclate for high-quality applications**.

### ecoSAVE®

- **Lower specific energy requirements** thanks to a complete package featuring design and process engineering measures
- **Lower production costs** through optimised control technology and high-quality, energy-efficient components such as high-performance motors
- Additionally, the practical **energy display** on your operating panel gives you a constant overview of energy consumption at all times, thus enabling you to take specific measures to optimise consumption
- **Reduced CO<sub>2</sub> emissions** – an important contribution to environmental protection





EREMA cutter/compactor – the dynamically controlled preconditioning unit

## How it works

**Feeding 1** is automatic according to customer requirements. In the patented **cutter/compactor 2** the material is cut, mixed, heated, dried, degassed, densified and buffered.

Next, the tangentially connected extruder is filled continuously with hot, pre-compacted material. In the **extruder screw 3** the material is plasticised, homogenised and then cleaned in the **fully automatic self-cleaning filter 4**.

The prepared and cleaned melt then goes via the **melt pump 5** directly to the co-rotating, self-cleaning **twin-screw extruder 6**. With its excellent mixing and gas removal properties, this **flexible** part of the system can handle **all compounding tasks**.

Besides the dosing of a wide variety of **additives**, high amounts of **fillers and reinforcing agents 7** can be admixed. In the **degassing zone 8** the compounded melt is degassed and moves to the respective **tool 9** (e.g. EREMA hot die face pelletising system).

### 2 Centrepiece cutter/compactor:

The dynamically controlled preconditioning unit. For an end product in consistently high quality.



cuts



homogenises



heats



dries



compacts



buffers



doses

## Technical benefits

- **Possible to use a wide range of recycling raw materials flexibly** thanks to the patented large EREMA cutter/compactor and Counter Current technology
- **Minimum thermal stress** through short, defined dwell times and direct dosing of the melt in the twin-screw-compounding-extruder
- **Proven EREMA degassing technology** with the EREMA cutter/compactor and extruder degassing
- **Proven, robust EREMA technology** to provide filtered melt
- **Central user interface** to control the whole system

## Economic benefits

- **Increased value added thanks to the use of inexpensive raw materials** (e.g. PP nonwoven, PE edge trim, PA fibres etc.)
- **Modular system concept** offers optimum adjustment to the respective application
- **ecoSAVE® reduces energy consumption by up to 10%** as well as production costs and CO<sub>2</sub> emissions as a result
- **Very low operating costs** and minimal specific energy costs through direct dosing of the filtered melt and processing in a single step without intermediate cooling
- **Reliable production** thanks to Counter Current technology and robust design
- **Compact, space-saving design**



## Upcycling with COREMA®

### EREMA® Recycling

**EREMA cutter/compactor:** cutting, mixing, preheating, drying, degassing, compacting, buffering

**EREMA recycling extruder:** plasticising, homogenising

**EREMA melt filter:** fully automatic and self-cleaning

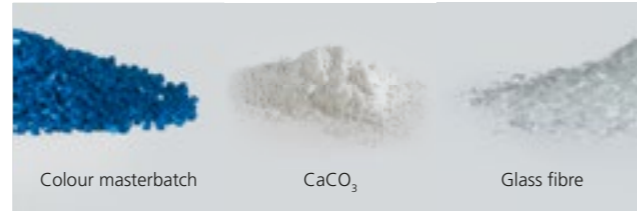


Examples of raw recycling materials

### Compounding

**Twin-screw compounding extruder:**

- Admixing of additives, fillers and reinforcing agents e.g. up to 80 % CaCO<sub>3</sub>, 50 % glass fibre, colour masterbatch
- Degassing



Examples of additives, fillers and reinforcing agents suitable for admixing

### EREMA® Pelletising

**EREMA pelletising systems:**

- For consistent pellet quality



Customised plastic recyclate

One control system for the entire plant

### Technical data COREMA®

COREMA® systems can be configured for outputs ranging from 300 kg/h to 4,000 kg/h in a wide variety of versions according to the application and specification of the recyclate.

Model	Output capacity in kg/h*
<b>COREMA 1108 T 50</b>	Recycling of PP nonwoven and compounding with alloy materials and mineral fillers (e.g. EPDM and talc) max. 500
<b>COREMA 1514 T 65</b>	Recycling of PA fibres and compounding with reinforcing agents (e.g. glass fibre) max. 1000
<b>COREMA 1721 T 96</b>	Recycling of PE films and compounding with mineral fillers (e.g. CaCO <sub>3</sub> ) > 3000

\* Depending on material properties of the polymer (moisture content, print, degree of contamination, etc.) type and properties of the filling/reinforcing agent and the degree of filling

# The specialists in plastic

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## More questions?

### We would be pleased to answer them!

Your EREMA advisor will be pleased to attend to your request personally and quickly. If you are interested in a demonstration or a test run with your specific material it would be a pleasure for us to make an appointment and welcome you to our EREMA Customer Centre at the headquarters in Ansfelden, near Linz in Austria.

We look forward to seeing you at EREMA!

### For worldwide representatives please visit [www.erema.at](http://www.erema.at)

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English

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PLASTIC RECYCLING SYSTEMS