

Recycling system with high-performance degassing
for thermoplastics

TVEplus[®]



**NEW
PATENT**
pending

We know how.



Washed PE film flakes



Heavily printed PE, PP film



PP film with paper contamination



Metallised BOPP film



Examples of materials that can be processed

TVEplus® - filtration, homogenisation and degassing at its best

The TVE extruder system has set new standards in filtration, homogenisation and degassing performance with plastic melts through the patented design of the melt filtration upstream of the extruder degassing stage.

This basic principle has also been maintained with TVEplus (patent pending). Thanks to **special design and process engineering measures, performance** has now been optimised even further. The TVEplus unites high-performance degassing, thorough melt homogenisation and the possibility to achieve ultra-fine filtration.

Technical benefits

- NEW** Enhanced filter performance thanks to reduced shearing upstream of the melt filter
- NEW** Optimised triple degassing with the patented EREMA cutter compactor, optimum screw design and extruder degassing ensure highly effective degassing of the filtered melt
- NEW** Higher homogenisation efficiency downstream of filtration and upstream of degassing enhances the subsequent degassing performance and improves the characteristics of the melt
- NEW** Innovative, patented additional technologies for the EREMA cutter compactor – DD system and air flush module widen the scope of application (optional)

Economic benefits

- NEW** High-quality end product even with materials that are difficult to process such as heavily printed films and/or very moist materials. End products can contain a considerably higher share of recycled pellets.
- NEW** ecoSAVE® reduces energy consumption by up to 10% as well as production costs and CO₂ emissions as a result
 - › Considerably higher outputs with the same screw diameter compared to conventional degassing extruders
 - › Compact, space-saving design



Optimised triple degassing

- › Initial **degassing in the EREMA cutter compactor** takes place through preheating and predrying the material
- › The optimum screw design - tuned to the material to be processed - enables **reverse degassing in the cutter compactor**, thus relieving the degassing zone of the extruder
- › Gas inclusions in the melt are removed in the **degassing zone**
- › Only **thoroughly melted, filtered and homogenised material** can pass the degassing zone of the extruder



How it works

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

The tangentially connected extruder is filled continuously. In the **extruder screw ③** the material is plasticised and degassed in reverse. At the end of the plasticising zone the melt is directed out of the extruder, cleaned in the **fully automatic, self-cleaning filter ④** and returned to the extruder again.

The final **homogenisation of the melt ⑤** takes place after the melt filter. In the subsequent **degassing zone ⑥** the filtered and homogenised material is degassed. The melt is conveyed by the following **metering zone ⑦** to the respective **tool ⑧** (e.g. pelletiser) at extremely low pressure levels.

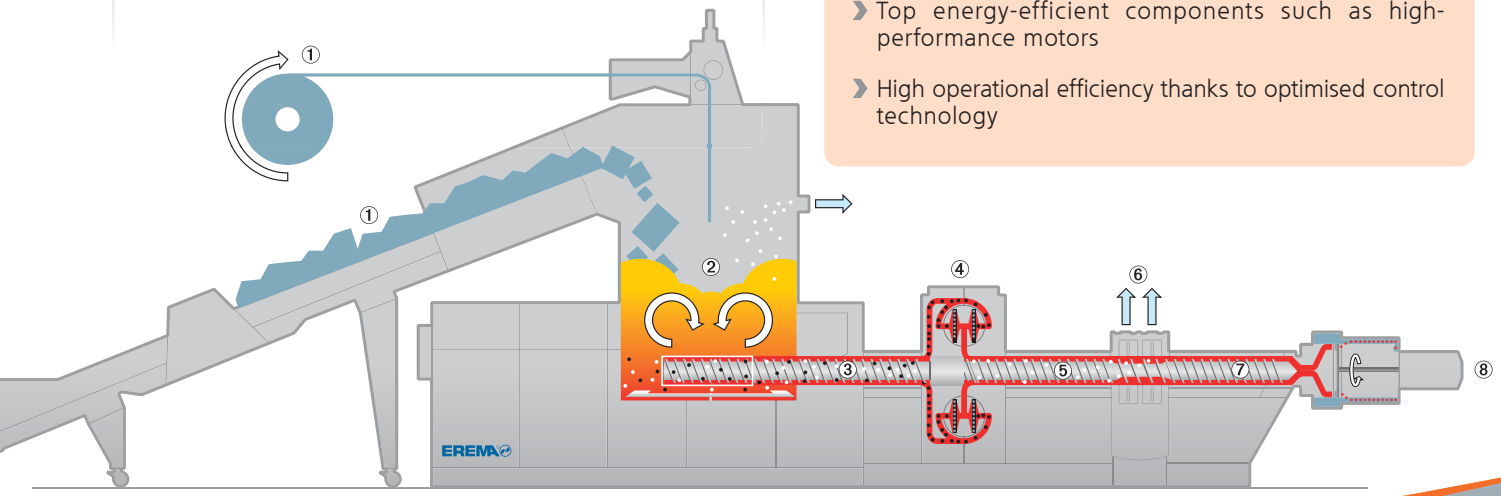
Innovative, patented additional technologies for the EREMA cutter compactor (optional)

- › With **patented Double Disc (DD) technology** materials with up to **12% residual moisture** can be processed with consistently high output
- › The **patented Air Flush Module** increases **drying performance** and output while ensuring lower energy consumption and extending plant service life
- › **Optimised large EREMA cutter compactor**



ecoSAVE®

- › Top energy-efficient components such as high-performance motors
- › High operational efficiency thanks to optimised control technology



System layout TVEplus



Technical data TVEplus®

| Systems available | Average output capacity in kg/h* | | | | | | | |
|--------------------|----------------------------------|------|------|------|------|------|------|------|
| | LDPE, LLDPE | | HDPE | | PP | | PS | |
| | min | max | min | max | min | max | min | max |
| EREMA 1007 TVEplus | 250 | 350 | 200 | 300 | 250 | 350 | 300 | 400 |
| EREMA 1108 TVEplus | 320 | 450 | 300 | 400 | 360 | 450 | 400 | 500 |
| EREMA 1109 TVEplus | 450 | 550 | 400 | 450 | 400 | 550 | 500 | 650 |
| EREMA 1310 TVEplus | 550 | 650 | 500 | 580 | 550 | 650 | 650 | 800 |
| EREMA 1512 TVEplus | 750 | 1000 | 700 | 850 | 750 | 950 | 900 | 1100 |
| EREMA 1514 TVEplus | 950 | 1300 | 800 | 1100 | 850 | 1300 | 1200 | 1450 |
| EREMA 1716 TVEplus | 1100 | 1600 | 1000 | 1300 | 1200 | 1500 | 1350 | 1600 |
| EREMA 1718 TVEplus | 1500 | 2000 | 1300 | 1600 | 1500 | 2000 | 1500 | 2000 |
| EREMA 1721 TVEplus | 2200 | 2700 | 1800 | 2200 | 2000 | 2500 | 2400 | 3000 |

* Depending on material properties such as moisture content, printing, degree of contamination etc.

Demonstrations and test runs with your plastic material in our customer test centre are welcome by appointment.

Choose EREMA

- › Proven and reliable technology from the global market leader
- › Constant innovations secure the lead
- › First class worldwide customer service guarantees lasting reliability and fast support
- › Outstanding end product quality
- › Customised individual solutions



Headquarters & Production Facilities

EREMA Engineering Recycling
Maschinen und Anlagen Ges.m.b.H.
Unterfeldstraße 3
A-4052 Ansfelden, Austria
Phone +43 732 3190-0
Fax +43 732 3190-23
erema@erema.at, www.erema.at

Subsidiaries

EREMA NORTH AMERICA INC.
23 Old Right Road - Unit#2
Ipswich, MA 01938 / USA
Phone +1 978 356-3771
Fax +1 978 356-9003
erema@erema.net
www.erema.net

EREMA JAPAN Co., Ltd.
8F Tobu Yokohama Second Building
Kanagawa Prefecture
2-15-1, Kita Saiwai, Nishi-Ku
220-0004 Yokohama, JAPAN
Phone +81 45 317-2801
Fax +81 45 317-2803
erema@erema-japan.com
www.erema.at

EREMA Shanghai Office
Room 1009, Tomson Financial Building
710 Dong Fang Road, Pudong
Shanghai China (200122)
Phone +86 21 6876-6201, 6876-6204
Fax +86 21 6876-6203
erema@erema.com.cn
www.erema.at

For worldwide representatives see www.erema.at

Subject to technical modifications. Printed 10/2010. E
© EREMA Engineering Recycling Maschinen und Anlagen Ges.m.b.H.

