Versatility, Accessibility and Intelligence are the key highlights of the recoSTAR universal recycling line. New advanced features complement a well-proven technology.

The **rECO** concept is an innovative approach that improves the energy efficiency of the recycling line. The overall energy consumption kW/kg is reduced by approx. 10 %. The benefit for the client is reduced costs, benefit for the environment is reduced carbon footprint.

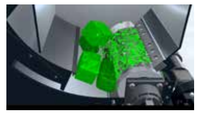
The **rECO package** includes amongst others:
- New drive concept for the main extruder drive.
- Main motors IE3 standard.
- Free-angle cutting geometry for exact cutting and low energy consumption.
- Barrel heating with infrared heater.
- Energy recovery solutions are optionally available for various process steps.

Feeding via cyclone in-line with production line, nip roll feeder and conveyor belt. Material can be fed into the hopper in all shapes without pre-cutting.

Shredder design with curved pusher and increased buffer volume. Shredder bottom and dosing screw are opened hydraulically for easy access, allowing faster material and colour change-over.

Three-drive design ensures exact material dosing and output control.

User-friendly control panel design, RFID chip operator identification, LED elements for intuitive operation, automatic start-up and stand-by, one-button start/stop, etc.

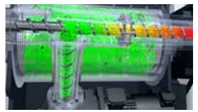


Exact cutting geometry with tight knife clearance and ideal stator/rotor knife arrangement ensures perfect material preparation. The slow-running rotor improves knife lifetime and overall reliability. Shredder rotor reverses automatically if required.

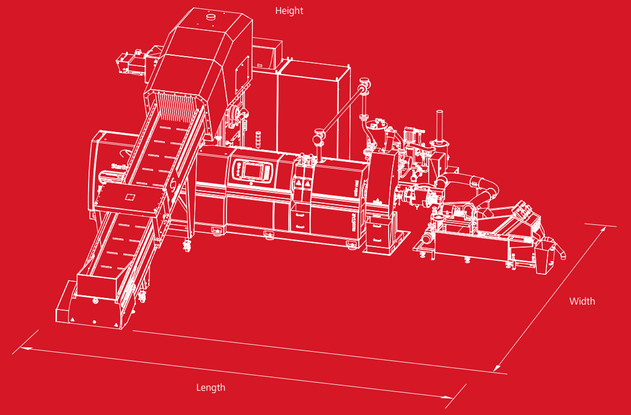
Low noise and vibration levels are setting new standards.

Extruder screw and barrel are wear resistant, optionally ultra wear resistant.

Easy maintenance is ensured by the large service opening; rotor and stator knife change is possible without moving the conveyor belt.



The innovative process adaption allows wide material variations. The load-controlled dosing screw ensures stable extruder feeding and perfect process stability.



We reserve the right to technical modifications. DPK-248311-04U

Dimensions in mm / inch	recoSTAR universal					
Type	**65**	**85**	**105**	**125**	**145**	**165**
Height in mm	2960	2960	4300	4300	5400	5400
Height in inches	*120*	*120*	*170*	*170*	*210*	*210*
Width in mm	6020	6020	7600	8500	11600	12500
Width in inches	*240*	*240*	*300*	*300*	*460*	*490*
Length (with degassing) in mm	9400	8300	11800	14000	17000	18800
Length (with degassing) in inches	*370*	*330*	*460*	*550*	*670*	*740*

Technical Data	recoSTAR universal					
Type	**65**	**85**	**105**	**125**	**145**	**165**
Output [kg/h]*	110 – 230	200 – 420	300 – 600	350 – 850	500 – 1050	650 – 1300
*Output [lbs/h]**	*240 – 510*	*440 – 930*	*660 – 1320*	*770 – 1870*	*1100 – 2320*	*1430 – 2870*
Energy consumption [kWh/kg]	0,2 – 0,35	0,2 – 0,35	0,2 – 0,35	0,2 – 0,35	0,2 – 0,35	0,2 – 0,35
Energy consumption [kWh/lb.]	*0.13 – 0.16*	*0.13 – 0.16*	*0.13 – 0.16*	*0.13 – 0.16*	*0.13 – 0.16*	*0.13 – 0.16*
* without degassing						
ACTIVE shredder						
Shaft width [mm]	800	800/1200	1200/1600	1200/1600	1900/2000	1900/2000
Shaft width [inch]	*31.5*	*31.5/47.2*	*47.2/63*	*47.2/63*	*74.8/78.7*	*74.8/78.7*
Drive power [kW]	55	55/90	90/110	90/110	90/110/160	132/160
Extruder						
Screw diameter (L/D) [mm]	65	85	105	125	145	165
Screw diameter (L/D) [inch]	*2.5*	*3.3*	*4.1*	*4.9*	*5.7*	*6.5*
L/D	24(40*)	24(40*)	24(40*)	24(40*)	24(40*)	24(40*)
AC drive [kW]	55/75	90/110	132/160	200	200/250	315/345/355
* with degassing						
Downstream equipment						
Degassing: vacuum, cascade vacuum, high vacuum	○	○	○	○	○	○
Water ring pelletiser	●	●	●	●	●	●
Strand/automatic strand pelletiser	alternative	alternative	alternative	alternative	alternative	alternative
Underwater pelletiser	alternative	alternative	alternative	alternative	alternative	alternative

● standard ○ option

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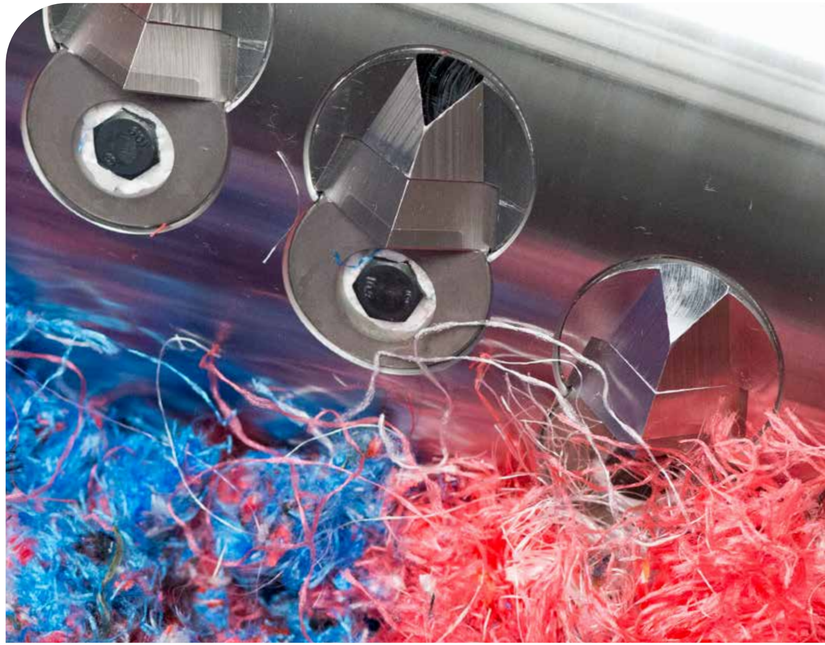


RECYCLING LINE recoSTAR universal

for production and post-industrial scrap, integrated ACTIVE shredder for hard-to-grind materials, **innovative process adaption,** quick access for fast material change-over, easy maintenance, **high performance design**

Starlinger

recycling technology

State-of-the-art recycling technology with extended functionality and **innovative process adaption through the ACTIVE shredder.** Designed for processing films, fibres and filaments, nonwovens, tapes, fabrics, as well as solid lumps, start-up scrap, injection moulding parts, and any type of regrind; from materials such as PE, PP, PS, PA, PES, PET, PPS, PLA, and others.

The ACTIVE shredder ensures perfect material preparation for high output through exact cutting geometry and double-coil rotor design. The load-controlled dosing screw allows stable extruder feeding even when the bulk density varies. Easy access and maintenance leads to high uptime and availability.

The optional degassing extruder purifies the melt from volatile contamination and monomers. Options such as high-vacuum and cascade degassing are available for input materials which are highly printed, humid and/or hygroscopic. Wear-resistant extruder design.

A variety of melt filters for removing solid contaminants are available. The optional backflushing reduces costs for filter screens and operator intervention. In case of higher contamination a power backflushing or continuous filter is recommended.

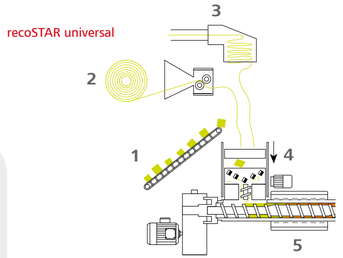
The water ring pelletiser ensures exact cutting for high pellet quality and low operating costs. The remote control panel next to the pelletizer allows starting/stopping of the line also from this position. Alternatively, a strand, automatic strand, or underwater pelletiser can be used.

Compounding with powder, liquid or masterbatch allows to upcycle the plastic scrap. In-house masterbatch production with the Starlinger recoBATCH solution is possible. Constant high pellet quality, up to 100 % reuse in a variety of applications.

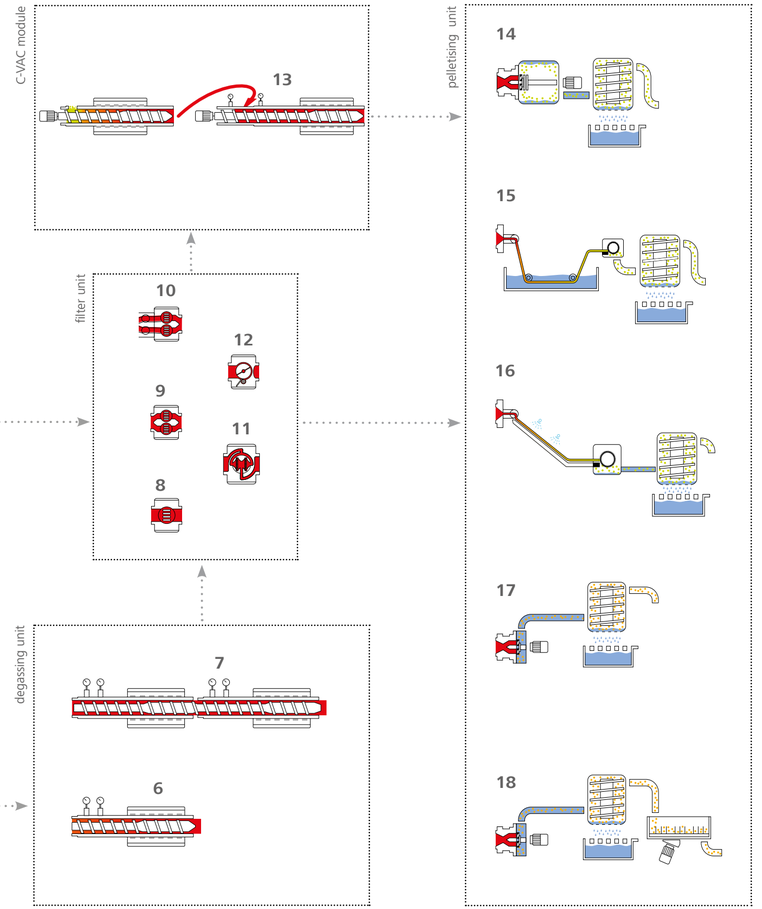
ACTIVE shredder

High performance ACTIVE shredder for rigids, flexibles and hard-to-grind materials without pre-cutting:

A accessibility & quick material change
C controlled cutting & dosing
T tight knife clearance & high performance
I intelligent & innovative
V versatile & wide material range
E easy start & stop operation



1. Conveyor belt
2. Nip roll feeder
3. Edge trim cyclone
4. ACTIVE shredder
5. Extruder



6. Degassing extruder
7. Double degassing extruder
8. Melt filter, discontinuous
9. Melt filter without backflushing
10. Melt filter with backflushing
11. Melt filter with power backflushing
12. Continuous melt filter
13. C-VAC degassing extruder with first and second degassing port
14. Water ring pelletiser
15. Strand pelletiser
16. Automatic strand pelletiser
17. Underwater pelletiser (UWP)
18. UWP with inline crystallisation