

High automation, increased energy efficiency and a wider range of applications are the key highlights of the recoSTAR dynamic recycling lines and 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:

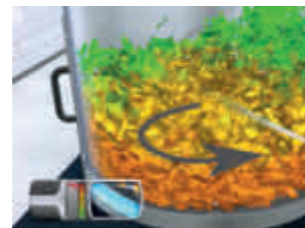
- ▶ New drive concept for the main extruder drive.
- ▶ New drive configuration for SMART feeder.
- ▶ Main motors in IE3 standard.
- ▶ Barrel heating is done with infrared heaters.
- ▶ Energy recovery solutions are optionally available for various process steps.



Feeding via cyclone in-line with production line, nip roll feeder and conveyor belt; simplified start-up through control of filling level.



Dynamic automation package: constant production, higher output and flexibility. Optimal operation point through speed controlled SMART feeder drive and actively controlled input slider.

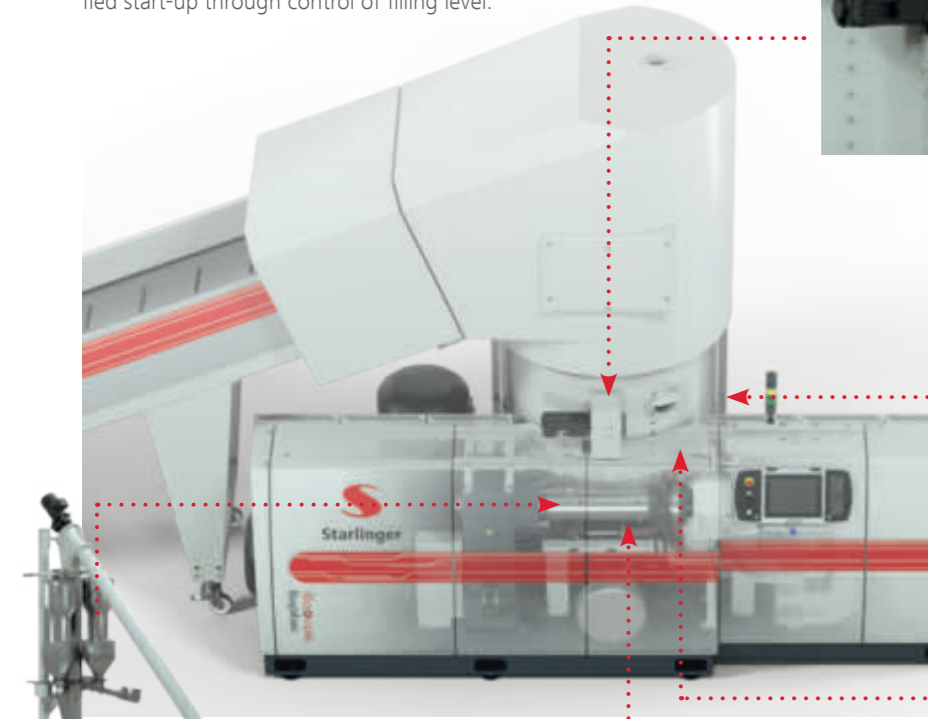


Large SMART feeder for wide range of input materials. Enlarged operator window enabled through water cooled bottom.

Radiant heat of extruder is used for the SMART feeder air-flush allowing higher moisture content.

User friendly control panel design, LED user elements, automatic start-up and stand-by, one-button start/stop, etc..

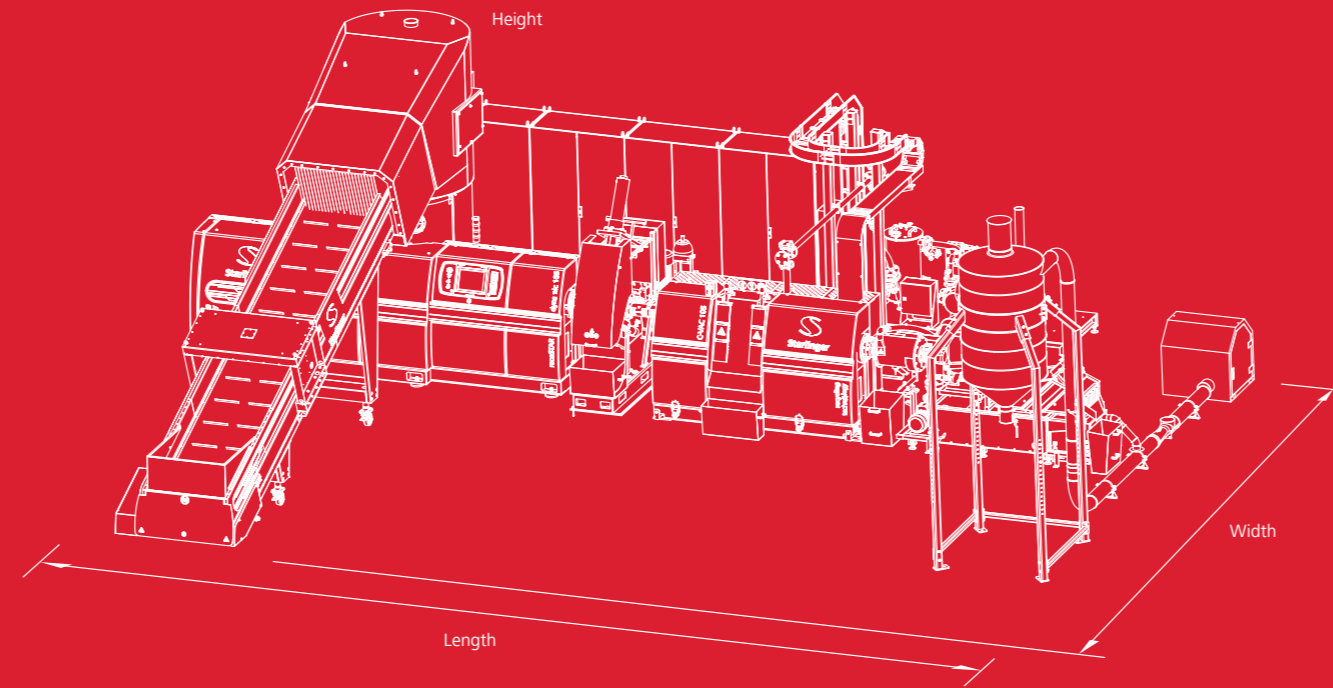
Extruder screw and barrel are wear resistant; optionally ultra wear resistant.



Side feed compounding with output feedback loop allows up-cycling through exact dosing straight into the extruder.



Optimally prepared material is fed by centrifugal force continuously into the extruder.



We reserve the right to technical modifications. DPR-24821-085

Dimensions in mm / inch		recoSTAR dynamic						
Type		65	85	105	125	145	165	215
Height in mm		3850	3850	4100	4100	4100	4100	4800
Height in inches		150	150	160	160	160	160	189
Width in mm		10000	10000	10000	10000	11000	11000	11000
Width in inches		400	400	400	400	440	440	440
Length (with degassing) in mm		8500	9500	10800	14000	16000	17000	19000
Length (with degassing) in inches		340	380	430	550	630	670	750

Technical Data		recoSTAR dynamic						
Type		65	85	105	125	145	165	215
Output [kg/h]*		150 – 250	300 – 450	450 – 700	650 – 900	850 – 1200	1000 – 1500	2200 – 2600
Output [lbs/h]*		330 – 550	660 – 990	990 – 1540	1430 – 1990	1870 – 2640	2200 – 3310	4850 – 5730
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	0.2 – 0.35
Energy consumption [kWh/lb.]		0.09 – 0.16	0.09 – 0.16	0.09 – 0.16	0.09 – 0.16	0.09 – 0.16	0.09 – 0.16	0.09 – 0.16

SMART feeder		recoSTAR dynamic						
Type		65	85	105	125	145	165	215
Diameter [mm]		900	1100	1270	1430	1580	1650	2050
Diameter [inch]		35.5	43.5	50	56.5	62.2	65	81
Drive power [kW]		37/45	75/90	132/160	160/200	160/200/250	200/250	400/500

Extruder		recoSTAR dynamic						
Type		65	85	105	125	145	165	215
Screw diameter (L/D) [mm]		65 (24; 40*)	85 (24; 40*)	105 (24; 40*)	125 (24; 40*)	145 (24; 40*)	165 (24; 40*)	215 (24; 40*)
Screw diameter (L/D) [inch]		2.5 (24; 40*)	3.3 (24; 40*)	4.1 (24; 40)	4.9 (24; 40*)	5.7 (24; 40*)	6.5 (24; 40*)	8.5 (24; 40*)
AC drive [kW]		45/55	75/90	110/132	160/200	200/250	250/315/345	405/470/530

Downstream equipment		recoSTAR dynamic						
Type		65	85	105	125	145	165	215
Degassing: vacuum, cascade vacuum, high vacuum		○	○	○	○	○	○	○
Water ring pelletiser		●	●	●	●	●	●	●
Strand/automatic strand pelletiser		alternative	alternative	alternative	alternative	alternative	alternative	alternative
Underwater pelletiser		alternative	alternative	alternative	alternative	alternative	alternative	alternative

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Drive power [kW]		37/45	75/90	132/160	160/200	160/200/250	200/250	400/500

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All data depending on design!

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RECYCLING LINE recoSTAR dynamic

for post-consumer waste and production scrap, wide range of applications, inline recycling, superior functionality with SMART feeder, dynamic automation package for higher output, increased energy efficiency





Machines pictured may include equipment sold as options.

State-of-the-art recycling technology with extended functionalities such as **SMART feeder** and **dynamic automation package**. Designed for processing film, fibres, thermoplastic in-house production scrap and washed post-consumer waste from materials such as PE, PP, PET, PES, PA, PLA, PS, PPS as well as foamed products. The most efficient solution for **hygroscopic and wet materials**.



The SMART feeder optimally prepares the input material and feeds it into the extruder by centrifugal force. **The dynamic automation package** regulates the ideal operation point. Automatic speed adjustment of rotating disc and positioning of load-controlled intake slider leads to increased output. Higher levels of humidity can be processed.



Wear-resistant Extruders are designed and manufactured in-house. The optional degassing extruder purifies the melt from volatile contaminants and monomers. For highly printed, very humid, hygroscopic and / or organically contaminated input material high-vacuum degassing and C-VAC modules are available.



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



The pelletising solutions are chosen depending on polymer type and preferred pellet shape. In case of automatic strand pelletising, broken strands are automatically inserted into the strand pelletiser without operator interference. Alternatively, manual strand, water ring, or underwater pelletising are available.



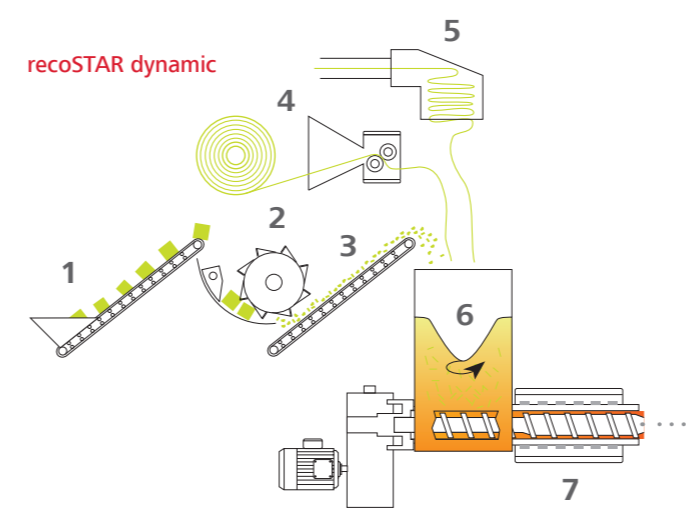
The high pellet quality ensures the production of an end-product with the characteristics of the original product. Up to 100 % reuse is possible. Additives can be added to increase the possibilities of reuse by adjusting pellet characteristics.



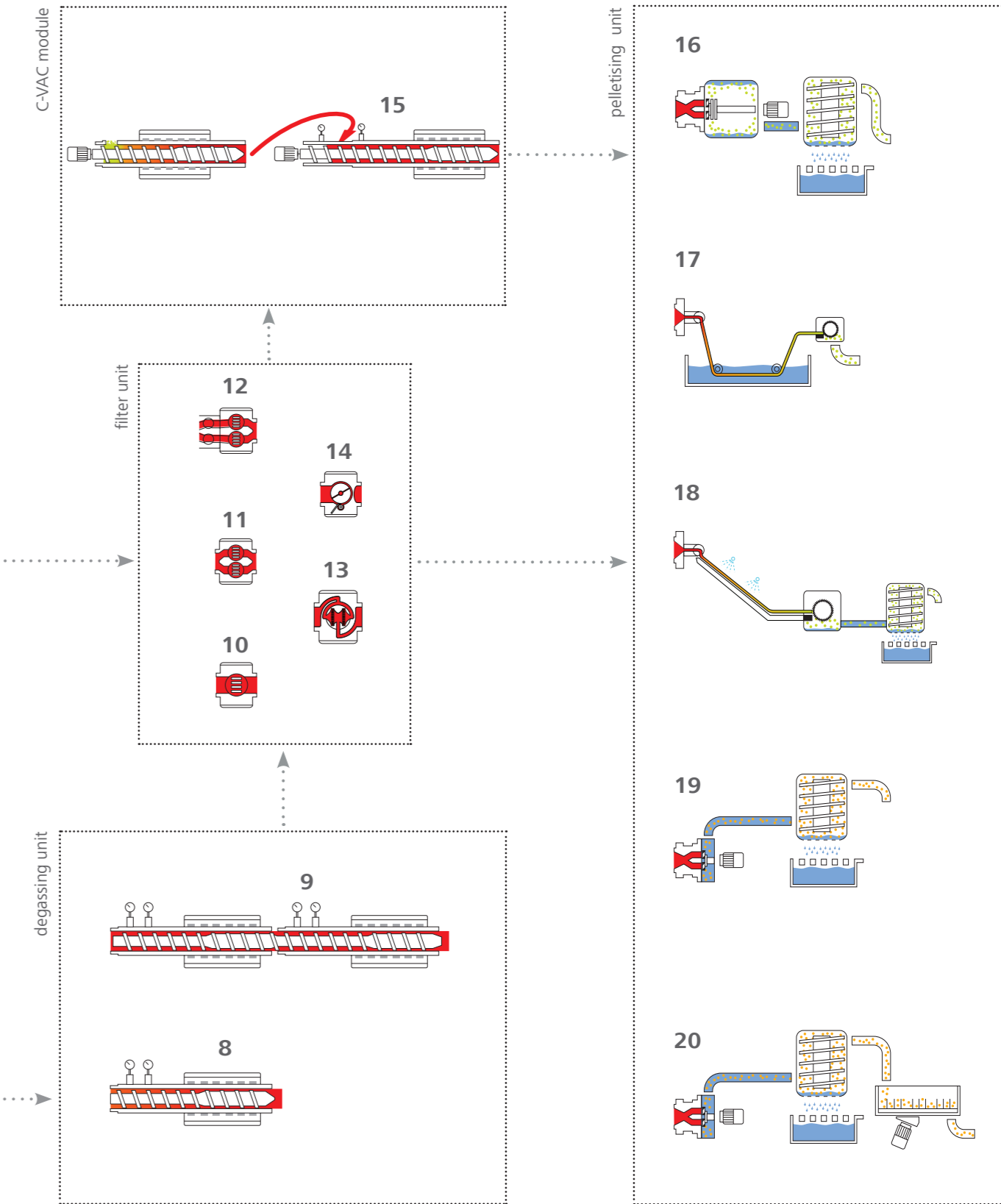
SMART feeder

for ideal material preparation prior to extrusion through performing simultaneously the following:

- S**hrink & cut
- M**ix & homogenize
- A**ctive feed & control
- R**otate & friction
- T**emperature & dry



- 1. Conveyor belt/screw
- 2. Single-shaft cutter, stand-alone
- 3. Conveyor belt with metal detector
- 4. Nip roll feeder
- 5. Edge trim cyclone
- 6. SMART feeder
- 7. Extruder



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