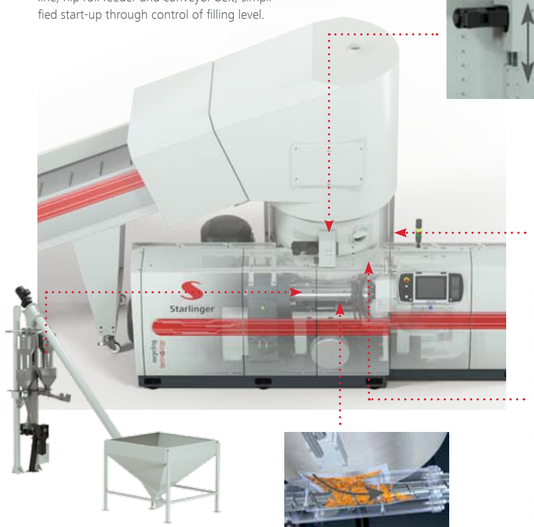
The RECYCLING LINE recoSTAR dynamic highlights above all high automation, increased energy efficiency and wider range of applications. New advanced features complement a well-proven technology.

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

The **r**ECO **package** includes amongst others:
- ▸ New drive concept for the main drive of the extruder.
- ▸ Main motors in IE3 standard, the most energy efficient motors available.
- ▸ 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.

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; overloading and underloading are avoided by load-control.

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.

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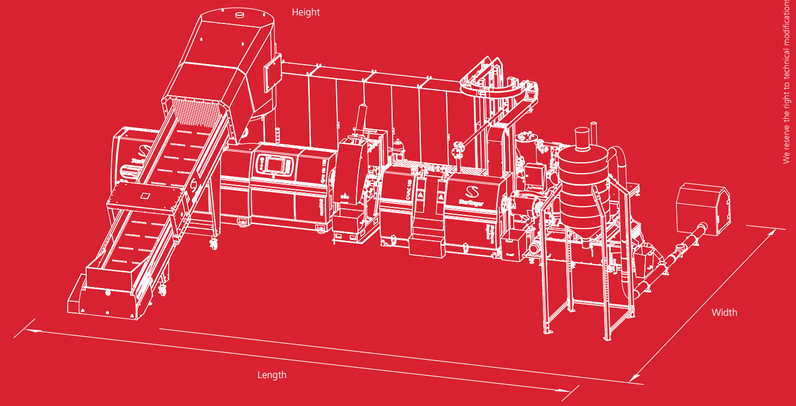


Dimensions in mm	recoSTAR dynamic					
Type	**65**	**85**	**105**	**125**	**165**	**215**
Height	3850	3850	4100	4100	4100	4100
Width	10000	10000	10000	10000	11000	11000
Length (with degassing)	8500	9500	10800	14000	17000	19000

Technical Data	recoSTAR dynamic					
Type	**65**	**85**	**105**	**125**	**165**	**215**
Output [kg/h]*	150 – 250	300 – 450	450 – 700	650 – 900	1000 – 1500	2200 – 2600
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
* without degassing						
SMART feeder						
Diameter [mm]	900	1100	1350	1650	2050	2050
Drive power [kW]	37/45	75/90	132/160	200/250	250/315	315/400
Extruder						
Screw diameter (L/D) [mm]	65 (24; 40*)	85 (24; 40*)	105 (24; 40*)	125 (24; 40*)	165 (24; 40*)	215 (24, 40*)
AC drive [kW]	45/55	75/90	110/132	160/200	250/315	500/560
* with degassing						
Downstream equipment						
Degassing	❍	❍	❍	❍	❍	❍
High-vacuum execution	❍	❍	❍	❍	❍	❍
Water ring pelletiser	●	●	●	●	●	●
Strand/automatic strand pelletiser	alternative	alternative	alternative	alternative	alternative	alternative
Underwater pelletiser	alternative	alternative	alternative	alternative	alternative	alternative

● standard ❍ option

All data depending on design!

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**

Starlinger

recycling technology

State-of-the-art recycling technology with extended functionalities such as **SMART feeder** and **dynamic automation package.** Designed for processing films, 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 contamination 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 rotation filter is recommended.

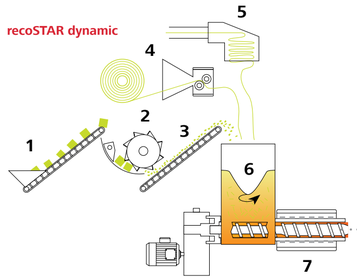
The pelletising solutions are chosen depending on polymer type and preferred pellet shape. In case of automatic strand pelletising, broken strands are automatically inserted into the strand pelletiser without operator interference. Alternatively, manual strand, water ring, or underwater pelletising are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

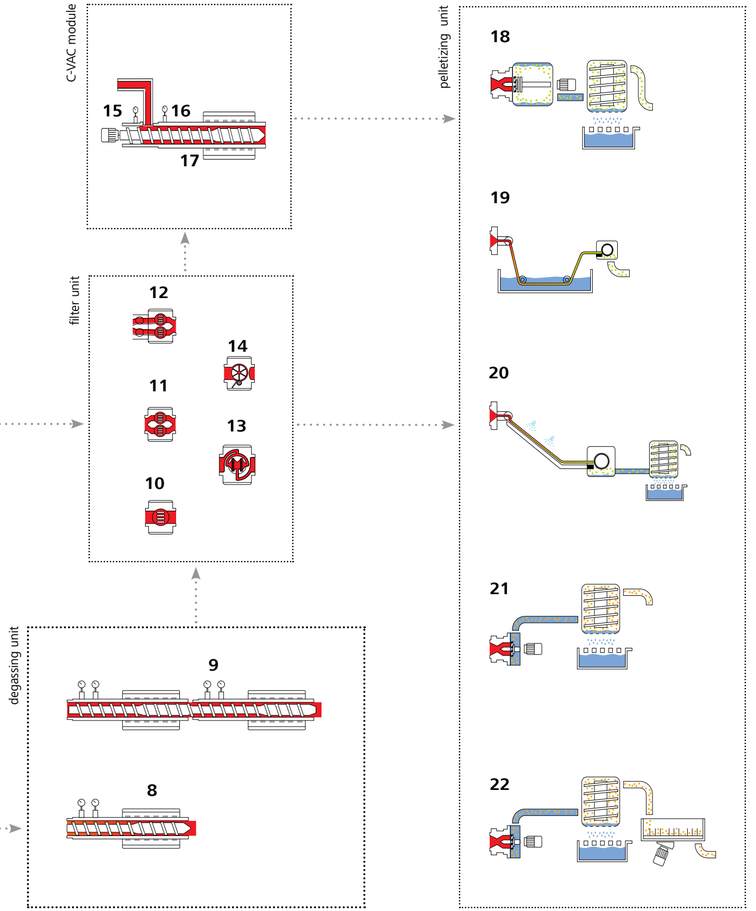
SMART feeder

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

S shrink & cut
M mix & homogenize
A active feed & control
R rotate & friction
T temperature & 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. Power backflushing filter
14. Continuous rotation filter
15. Reverse degassing, first degassing port
16. Second degassing port
17. Degassing extruder
18. Water ring pelletiser with centrifuge
19. Strand pelletiser
20. Automatic strand pelletiser
21. Underwater pelletiser (UWP)
22. UWP with inline crystallisation