

Down sizing of post consumer PET bottles in the UK (Roydon Group)



Roydon Group, established in 1974, is a company wholly committed to respond to customer requirements and changes in environmental legislation in the waste and recycling industry. From a starting point of recycling and reprocessing polythene, along with many other forms of packaging waste, the company has expanded its waste management and recycling activities to include:

- A complete waste management & recycling solution to help customers comply with today's environmental challenges
- Recycling of all waste materials such as plastics, paper, card, metal and WEEE
- Recycling and reprocessing of all plastics from the industrial, commercial and post consumer industry sectors.
- Today Roydon is one of the leading post consumer PET bottle recycling companies in the UK.

Problem:

Generating high outputs in clean flake production with a machine design which fits into the existing location. Especially height restrictions had to be respected – in combination with energy saving and noise reduced working principle for pressed, post consumer PET bottles.

Solution:

Horizontal forced feeding of the pressed PET bottles with HERBOLD'S SML SB series granulators.

Roydon uses two types of SB machines: SML 60/100 and SML 60/145.

In total there are five sizes available (capacities from approx. 1-7t/hr), SML 45/60 SB1, SML 60/100 SB2, SML 60/145 SB3, SMS 80/120 SB3 and SMS 80/160 SB3.

Customer benefits

- higher throughputs (30-50% higher capacity with the same granulator size compared to traditional granulators)
- Lower energy consumption (30-50% less power input compared to standard granulators) because of even feeding of the material and the compact design of the cutting chamber
- Even rotor loads (fewer fines and less dust in the reground)
- Automatic treatment of larger product quantities
- Lower noise emission
- High safety level, no material ejection and absence of the typically large opening for the conveyor belt and/or manual feeding
- No continuous manual feeding by an operator
- Available in either dry or wet configuration, as a wet unit an ideal addition to any wash line

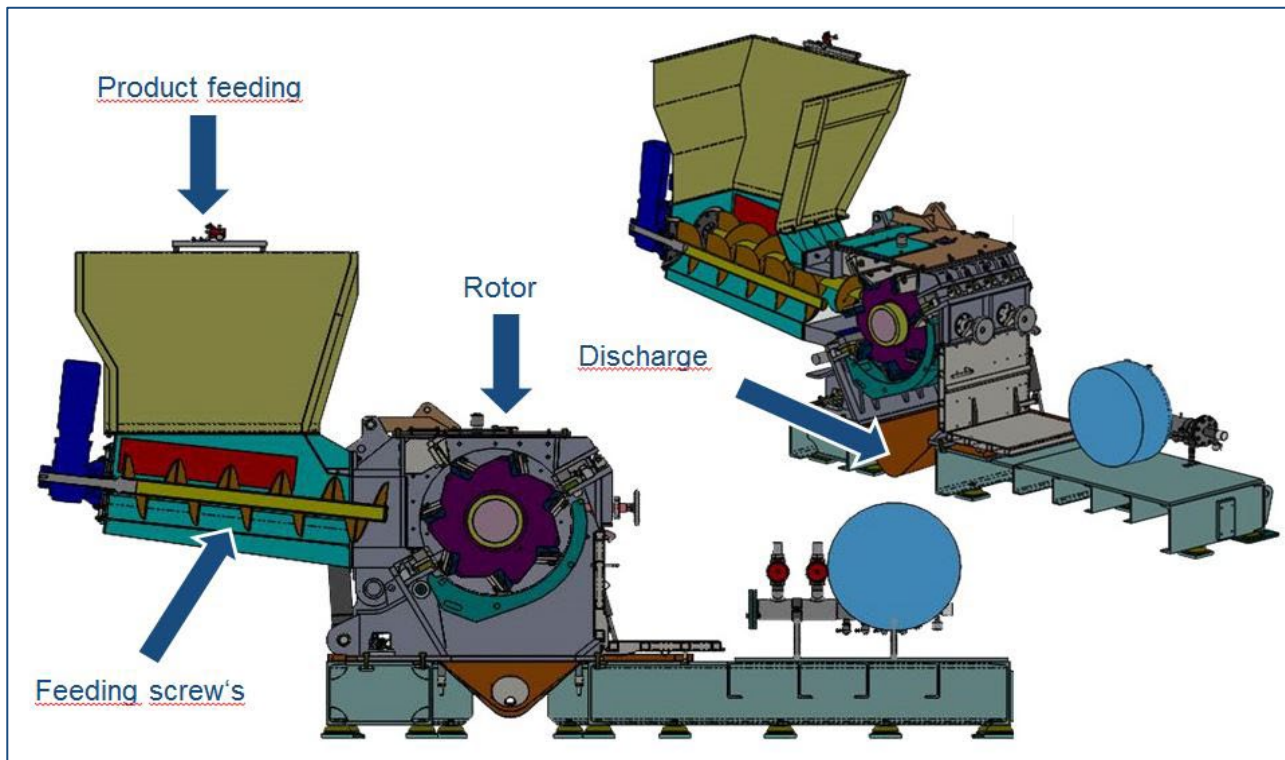
Possible savings with a SB machine vs standard granulator

Input material:	PET bottles, flattened
Throughput:	3000 kg/h / 12 mm screen
Standard granulator	160 kW
Granulator SB series	119 kW
Saving	41 kW/h
Annual operation time	6000 h
Price	0,12 €/kW/h
Consumption	70%

Possible savings / year: 20.664,00 €

The actual saving depends on different parameters such as contamination of the bottles, maintenance of the plant, utilized capacity etc.

SMS 80/160 SB type granulator with horizontal feeding sequence:



SB machine working principle:

