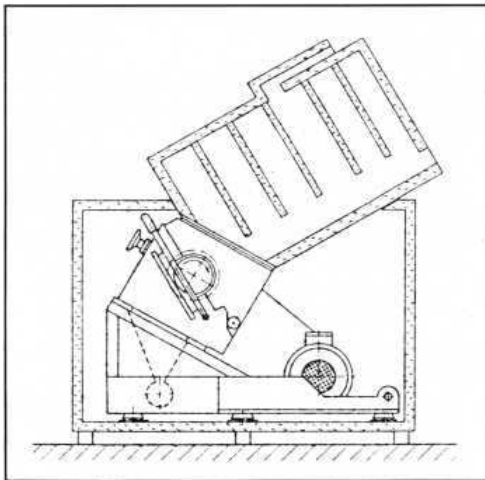


## Low-noise size-reduction of panel waste



The crushing of bulky panel waste both as "in-line reduction" adjacent to the production plant itself and as an independent main size-reduction unit is common practice. The simultaneous control of noise problems, however, renders difficulties to many panel or packaging producers. As this material tends to be very heavy, often up to 6.5-9.8 ft (2-3 m long), very thick (extruded panels up to 1.2" (30 mm)), compressed panels up to 6" (150 mm) or very cohesive such as Polycarbonat, noise reduction was carried out using perforated plates in the hopper, which caused considerable cleaning problems. The two granulators described below operate without perforated plates inside the feed hopper and still do not exceed the legal noise limits of 80 dB(A).



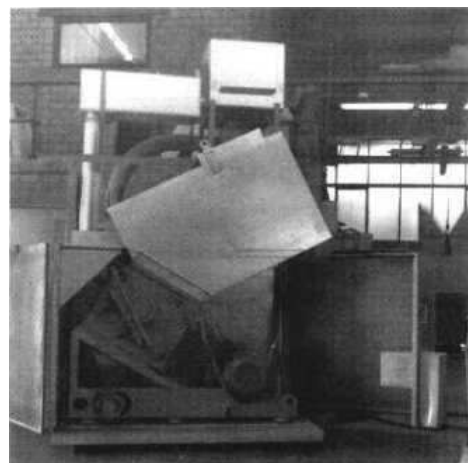
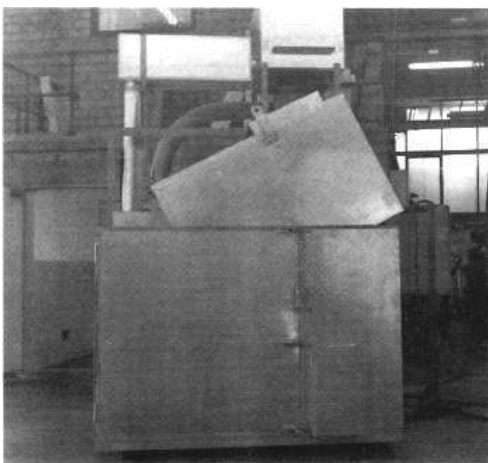
a) Granulator for panel strips adjacent to the extruder, see drawing.

Due to its specially designed rotor the machine operates with a horizontal self-aligning feed so that additional feeding facilities are not required. The complete unit including noise protection and suction devices can be transported by means of a fork-lift, thus guaranteeing universal application. The unit is supplied ready for use with plug connection and integrated electrical control. Because of its low feed height a feeding platform is not necessary. Noise emerging from the feed opening is dampened by a system of sound absorbing plates above the feed channel. The surface area achieved by this design has a sound dampening effect on the channel that reduces the noise to a degree below the limits of 80 dB(A). The granulator itself is protected by a sound-insulation cladding which - after loosening the side walls - can be lifted up and in this way guarantees optimum accessibility to the granulator.

### Technical data of the plant illustrated:

machine type:	SMS 30/30 up to 10" (250 mm) width, SMS 30/50 up to 16" (400 mm) width, SMS 30/80 up to 28" (700 mm) width
application:	panels up to 0.4" (10 mm) thickness, brittle panels (e.g. PVC, PS, etc.) even thicker than 0.4" (10 mm)
drive capacity:	11-45 kW, dependent on thickness and kind of plastic
input capacity:	200-1200 kg/h
reference:	van Besouw, Goirle (Belgium)

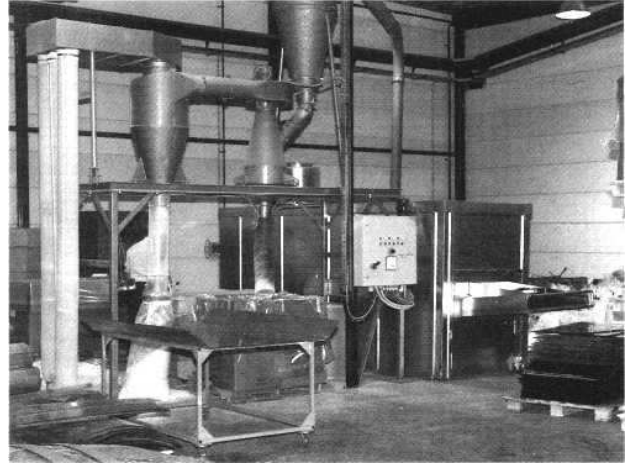
Granulators for panel waste SMS 30/30 to SMS 30/80, working widths 250 - 700 mm



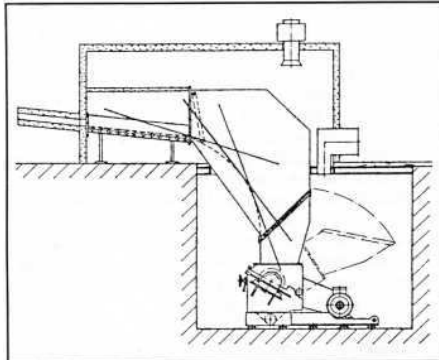
b) Main granulator for panels and lumps, see drawing

The granulator which has a sturdy and compact design requires only a shallow pit depth. Apart from the feed channel which is housed in a compact design casing nothing protrudes from the pit.

A structure fitted in front of the feeding slot reduces the noise emission considerably. The panels do not start to rotate before they reach the hopper. This enables the feed slot size to be kept to a minimum and reduces the noise output. Feeding is carried out using a roller conveyor. A connecting flange between the independently supported hopper and the upper part of the machine allows to easily open the granulator. The inside of the pit covering is fitted with noise absorbing material. Feeding to the unit takes place at a comfortable working height of 31.5" (800 mm).



Main granulators for panel waste SMS 45/60 to SMS 45/160, workings widths 550-1500 mm



#### Technical data of the illustrated unit:

machine type:	SMS 45/100 H5-3
application:	PC panels up to 0.8" (20 mm) thickness, 9.8 ft (3 m) length, 31.5" (800 mm) width
drive capacity:	100 HP (75 kW)
input capacity:	1,2 t/h with $\frac{5}{16}$ " (8 mm) granules
references:	Resart Ihm, D-Rauenheim Metzler, D-Jülich Axxis (Erta Plastics), Tielt/Belgium

#### Both machines are equipped with the well-known advantages of the HERBOLD granulators of the SMS series:

- double cross cutting action, i.e. rotor **and** stator cutters are adjusted in a position opposed to each other. This results in an efficient and low-noise scissor cutting with a low quantity of fines.
- the rotor cutters are gauge-adjusted outside the grinder. The gauge is supplied by HERBOLD.
- the rotor bearings are housed outside of the cutting chamber (pillow block bearings).
- easy cleaning and maintenance due to the connection flange on the hopper, the lift-up screen casing (no tools needed!) and the layout of the machine which has no "dead corners".
- heavy-duty all-welded steel construction (no casting).

The following additional equipment is available for the illustrated granulators:

- dust separator for separating fines or paper which has been loosened from the material during the grinding process (e.g. labels or protective foils)
- metal separator
- fully automatic feeding equipment



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