Press Release: Preliminary report on the occasion of the K-2016 Show in Düsseldorf

Herbold Meckesheim GmbH at the K-2016 Show (19.10. - 26.10.2016) in Düsseldorf, Hall 09 Stand 9B 42:

The five columns of our plastics recycling

The machine and plant manufacturer from Meckesheim/Germany will present their five columns for an efficient and cost-effective recycling of plastic waste, characterised by low operating costs and a higher efficiency.

Column 1: Pre-size-reduction

Pre-size-reduction is an important process step if the feeding material is too bulky for the usual procedure or if the material is in a first step only to be coarsely shredded for a subsequent sorting, classification or inspection. For this purpose, shredders, granulators, guillotines and hammer mills are used as pre-size-reduction machines, *e.g.*

HOG Shredder HGM series

Designed for size-reducing difficult, especially viscous materials or materials containing foreign bodies where the service lives of standard granulators are too short and where traditional shredders do not yield the desired end product. Available in wet execution for extremely abrasive materials, such as agricultural film, WEEE, etc.

Fig.1) Herbold Wet Shredder HGM 60/200

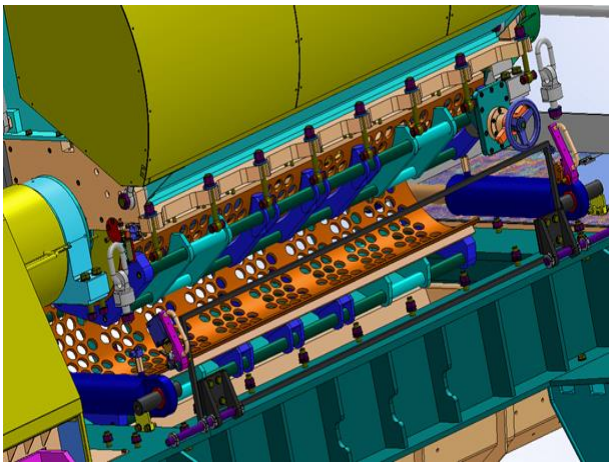

Fig.2) HGM 60/200 Swivel-type Screen Support

Column 2: Size-reduction

Herbold size-reduction machines grind all types of **plastic waste**, it does not really matter whether it comes from injection or blow moulding, thermoforming, rotomoulding, flat film extrusion or blow moulding extrusion, calendaring or waste from the production of pipes, profiles and plates or from the manufacture of other plastic products, e.g.:

Granulator SB with forced feeding (patented)

The patented Herbold granulators with forced feeding of the SB type have been successfully in operation worldwide for many years now. The material is not fed into the grinding chamber by gravity as is the case with traditional granulators but as a continuous and even flow by means of feeding screws.

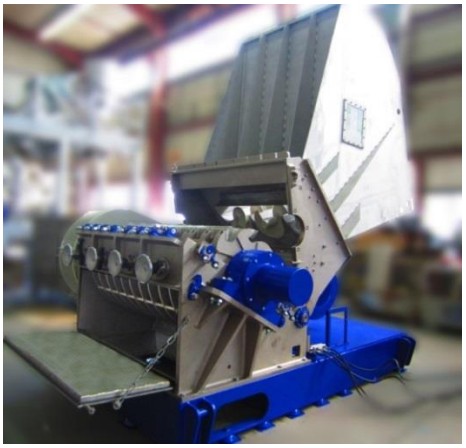

Fig.3) Herbold Granulators SB with forced feeding .

In case of difficult applications, only few suppliers in the market are able to find an appropriate solution. The problem's solution is the rotor design of the **SMS Granulator (Exhibit SMS 80/120 SB 2)**.

The one-piece rotor guarantees stability. Welding seams cannot break since they do not exist. The knives of this rotor cannot shift because they are crewed onto a massive back limit stop. This special design facilitates cleansing for there are no "dead angles" where remnants of grinding material could deposit.

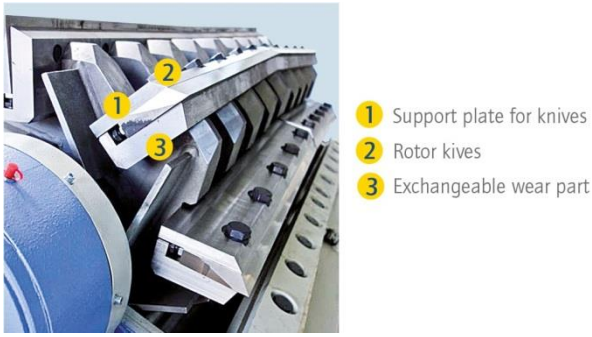

Fig. 4) Rotor of the F Series with exchangeable wear protection

Column 3: Fine Grinding

“Fine grinding“ in our application is pulverising below 1 mm. For this purpose – depending on the product – we use granulators or impact disc pulverisers, e.g.:

Impact Disc Pulveriser PU Series

Herbold impact disc pulverisers are high-speed fine grinders. They are used with granular and brittle materials, e.g. PE granules or rigid PVC grinding materials.

Column 4: Washing, Separating and Drying

End of life post-industrial and post-consumer plastic products are used, mixed and contaminated plastics. Before they can be used again, they have to be washed and/or separated. With the successful commissioning of the film washing line at Rodepa Plastics B.V. Herbold Meckesheim proved that a high-quality end product can be obtained by separating undesirable plastics with the hydrocyclone separation step.

Mark Langenhof Managing Director from Rodepa Plastics B.V underlines: *“Rodepa has taken a big step forward in recycling contaminated waste that is to newly integrate the production of film. This has only been possible with the best plant engineering. With Herbold Meckesheim we have now found the ideal partner in order to cooperate successfully.”*

Fig. 5) Hydrocyclone and dryer, in the background prewashing unit

NEW: **Step Dryer of the HV ST-150/150 Series (Exhibit at the Trade Fair**)

The vertical step dryer consists of a multiple-stage rotor dewatering the material via a screen basket. The granules/grinding material water mass enter the machine from the bottom and are transported upwards by conveying blades. The diameter of the rotor increases upwards following the single steps. In the lower area (where free water can still be separated easily) only inferior circumferential speeds occur, at the highest step, drying is done with maximum circumferential speed. The step dryer is ideal for drying grinding material or granules of all different types of thermoplasts such as polycarbonate, polyethylene, polyamide, polypropylene and polystyrene. This machine is particularly suitable for drying brittle plastics

and guaranteeing at the same time the least possible material loss caused by fines. The step dryer yields a residual humidity in the range between 0.4 and 0.06%/weight. The machine is also available in a gas-proof execution for drying in an inert atmosphere.

Column 5: Agglomerating / Densifying

With extreme materials such as stretch film or foams, a sufficient mechanical or thermal drying is not possible without high energy consumption. The solution to this problem is the Herbold Plastcompactor, a modern compacting machine. The friction originating between the compacting discs of the compactor heats, dries and compacts the material at the same time. The recycling of PET bottles has a double advantage: the material is being crystallized at the same time. The end product is agglomerated material with excellent flow properties and a high bulk density, ideal for dosing and mixing.

Plastcompactor HV Series (Exhibit HV 50 with new feeding device

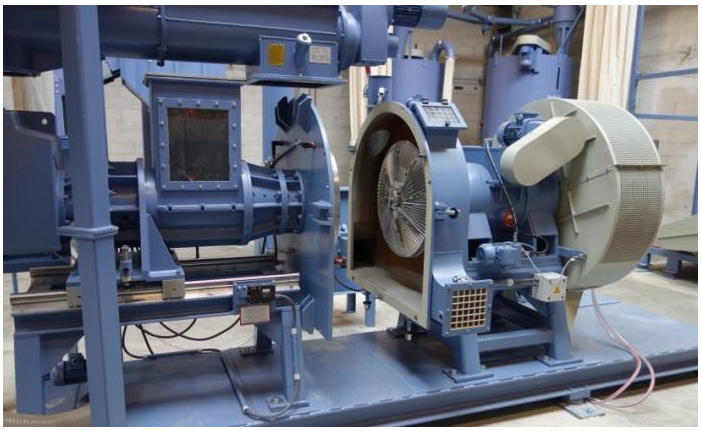

Fig.6) Herbold Plastcompactor HV 70 Series

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