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Piovan: Size reduction solutions for the packaging industry

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Granulator for film and edge trim features.

Nowadays, all industrial products are designed with a view towards recovering and recycling as many reject components as possible. In certain sectors, for example in the Food & Bever age packaging sector, a decision is often made not to change raw material, in order to continue the existing recycling channels and methods. The need to develop recyclable materials influences and determines choices in the research and development sector. For this reason, granulators have assumed a fundamental role in the plastics sector, having been specifically designed to recover plastics processing waste and make it reusable.

Piovan has redeveloped its range of recycling products introducing very high quality machines able to satisfy all recycling needs throughout the plastics sector. In all cases where plastic is used in the packaging, medical, automotive, textiles and electronics sectors, recycling is common practice, confirming the need for increasingly efficient and reliable granulators. Piovan has therefore introduced a new range complete with small, medium and large granulators, characterised by innovative technical and design-based

Optimised energy utilization: drop from the industry standard of 40 Wh/kg to the new Piovan standard of 25 Wh/kg

Most importantly, all new machines are fitted with an absolutely unique tangential cutting system. The rotary blades are inclined with respect to the fixed blades and are positioned as close as possible to the geometric tangent of the cutting circle, therefore optimising and improving cutting precision. In this way, high production capacities are achieved using smaller motors, with the additional benefit of minimising dust production and heat generation. These features ensure a more regular cut and more dimensionally consistent regrind. Without a cutting chamber of this quality, the regrind, in addition to being irregular, will also have a higher dust content and will therefore be more difficult to process.

Innovative design and manufacturing methodologies put the new Piovan granulators a step ahead of current solutions available in the market

The cutting chamber is made from machined pieces, which are then assembled rather than being cast or welded. This design has enabled the construction of high-precision components that improve the efficiency of the cut and the quality of the ground product, while improving the life of the granulator, as worn pieces can be replaced. Another distinctive feature of the Piovan granulators is the possibility for customisation. Even the most basic versions can be modified to suit the specific needs of the process.

Medium large size granulators N35-60 Model

N35-60: the state-of-the-art granulator

One of the very distinctive models of the new Piovan range of granulators is the N35-60, a machine encompassing all of the characteristics described above, in addition to featuring a 90° adjustable hopper for four loading positions, ensuring that if fed by conveyor belt, the direction of the belt can always suit the granulator hopper inlet. Maintenance is therefore simplified and less operating space is required.

N35-60 is part of a family of three granulators designed specifically to process large pieces or such as injection moulded food containers; large bottles or cans (blow moulding); tanks, bins, (rotational moulding process). These objects are normally quite large and light and can therefore bounce and be difficult to cut.

Piovan size reduction solutions: excellent results using less energy

Piovan granulators are also fitted with energy efficient electrical and control systems: the entire transmission system has in fact been revised to achieve effective energy savings when used 24/7. Even if the granulator doesn't work continuously, it is possible to optimise peak loads to reduce energy consumption. For example, in the case of blow moulding, the granulator is used heavily at start-up, while during operation it is used intermittently to grind 20 to 30 percent of production. Between one mould and another there are a series of idle periods in which the granulator is inoperative, even if the motor remains on. The energy saving system intervenes in this case to manage the idle periods and optimise consumption. The new range of Piovan high-efficiency granulators guarantees energy savings between 15 and 35 percent depending on the application.

Tags: #Downstream, #Material handling, #Products, #Recycling, #Related technologies, #Piovan, #Blow molding, #Cutting, #Film, #Loading, #Packaging, #Size reduction, #Storage and conveying