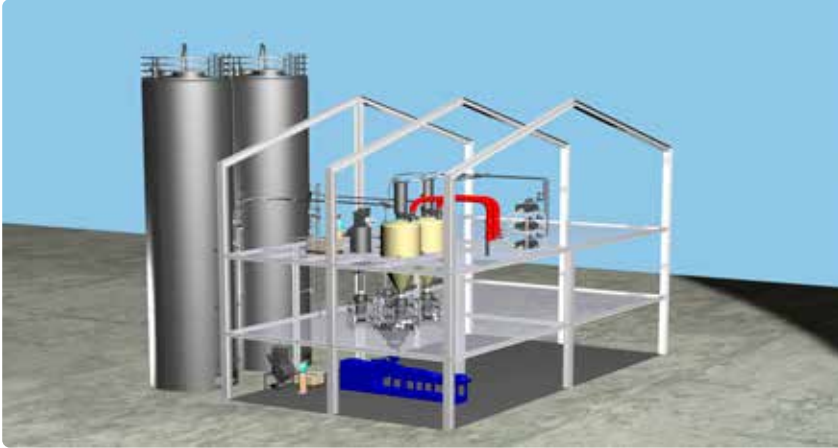


Sustainability that pays off.

Granulate-Preheating for gentle and energy efficient compounding



Plant example heat recovery

In plastics processing, so-called “compounding”, additives (fillers, additives, etc.) are added to the plastic granulate to achieve the desired property profiles. Considerable energy savings are achieved by preheating the granulate by using free hot exhaust air from the conveying pressure generators.

But this technology not only saves energy – it also minimizes wear and tear costs in particular, while at the same time enabling higher throughput rates.

Conventional conveying air generators produce waste heat from up to 80 percent of their output. So why not use this free energy to preheat the granulate?

The two granular main components should be preheated to approximately

30°C with the hot exhaust air from the under pressure generator.

Due to the low installation height, the feed hoppers above the differential dosing scales were designed as drying hoppers with integrated bag feeding. The specially dimensioned drying hoppers have a capacity of more than 2 hours. (dwell time granulate) and are protected against overheating (thermal damage) by means of a temperature sensor and blow-out flap.

The delivery pressure generators are frequency-controlled pumps. This enables the pumps to require only the energy which is needed for necessary conveying air according to the distance and the product intake.

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It was found that the energy saving only for preheating was up to 10 percent depending on the weather conditions. Even if the energy saving is less than 10 percent, it was found that the torque of the extruder can be reduced by approximately 3 - 5 percent, which significantly lowers wear and tear costs.

In addition, the performance of the extruder could be increased by up to 15 percent..

Facts:

- Energy savings of approximately 3 - 10% through free preheating
- 30,000 - 50,000 euros less wear and tear costs per year
- Up to 15% more throughput