

The conveying of regrind material in a pneumatic solution minimizes dust and liability and improves productivity

The challenge

- The factory located in Poland is part of a worldwide group that produces plastic packaging to the food industry
- The factory experiences dust from the regrind plastic material conveyed from grinder to big bags.
- The dust creates slippery floors, costs for cleaning up and increased risk of accidents
- The dust also generates layer on final products which is unacceptable to Audit and health regulations
- It was essential that the conveying solution was able to deliver a effective vacuum suction, in the transportation of the regrind material from the grinder to big bags to ensure, that the plastic material was removed in shortest possible period of time without get stuck in the cyclone or pipes and thereby create even more dust and lesser pieces of usable regrind material
- The solution must provide clean air and operate without generating under- or overpressure in the facility

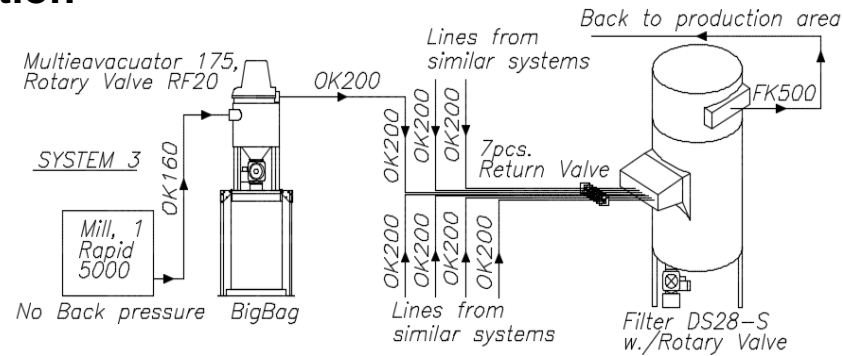
Facts

- Material: Regrind PET, PP, PS and flakes Ø 8mm Irregular shaped flakes and crumbs
- Requested solution. Customer wanted to convey regrind from 3 existing Granulators and 4 future Extruders to Big Bags
- Suction points: 7
- Air amount 9448 m³/hrs. (from 6 pick ups)
- Pressure: 170-410 Pa (in 160 mm pipes)
- Bulk density: PP: 750 kg/m³, PET: 900 kg/m², PS: 700 kg/m³ and OPS: 650 kg/m³
- Conveying distance: V: max 6 m. H: max 36 m



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The solution



- The pneumatic conveying is reducing dust in the factory by vacuum transporting the regrind material in pipes. By installing filters at the end of the line the system also delivers needed clean air back to the production area
- The Kongskilde solution consists of Multievacuators 175, RF20 Rotary Valve combined with OK160 and OK200 pipes and DS28-S filter that ensured higher productivity
- The system with the Quiet Vacuum blower generates a “gentle” conveying of the regrind material from grinder to the big bags and cleans the transported material in the process

The advantages and benefits

- With less dust in the factory, the company minimizes the liability to the slippery floors, reduces the need for cleaning and experiences less sickness leave
- The ability to generate a high vacuum effect combined with sufficient capacity of blowing and transporting the regrind material without generating dust and damaging the material contributes to increased productivity
- The Kongskilde solution creates no overpressure when discharged and no underpressure in the production area as the air used to convey is filtered and returned to the production room

