

High Spin Dryer and Cleaner

Problem

Mechanical drying is required to dewater washed plastics from water. An efficient drying can only be performed by tremendous impact forces. Most dries offered on the machinery market operate with small rotor speed. The consequence is a high energy consumption with a small drying performance. To cope with the high spin highly balanced rotors are required. The design of these rotors is challenging.

While drying of rigid flakes is easy the drying of thin and soft film is challenging. Most of the films manufactures by the packaging industry have a thickness from only 20 to 60 μ m. Stretch films could be even thinner. The drying of these films involves the treatment of huge surfaces. For instance 1000 kg of LDPE film having a thickness of 20 μ m has a surface of more than 108000 m². This requires a advanced machines and equipment.



The spin dryer has a tailored designed for soft and rigid flakes

Solution

Pla.to offers a unique jacket rotor design which allows high spin rotation up to 2500 rpm. The acceleration of rotor plates impels the plastic to a speed of more than 70 m/s. Lumps of films are immediately released up to the single flake.



Continuous rotating scraper cleans screen and housing of the drier. This feature is essential to remove beside dust and fibers plastics fines produced during shredding. This fines being smaller than 1mm are undesired in the downstream devices.

Polygonal screens baskets increase the drying and cleaning efficiency of the machine. The screens are always made of stainless steel which insures a minimum of abrasion and a long durability.



A unique rotor design offers maximum performance

An integrated blower sucks the material into the machine and impels it out. This avoids jams and increases the performance. The dryer should be able to spin of final contamination which have not been removed during the washing und separation steps. Such contamination could be sand particle migrated into a film or fiber residues from decomposed paper. The removal of this small quantities is an essential benefit of the dryer.



Technical data

Туре	Performance bottle flake [kg/h]	Performance Film > 20µm [kg/h]	Main Motor [kW]	Scraper Drive [kW]
SD20-40	250	50	20	0.55
SD37-50	500-600	100-150	25-37	0.55
SD75-70	700-1000	150-400	45-75	0.55
SD90-90	2000-2500	500-700	75-90	0.55
SD110-125	3000-4000	800-1000	90-110	0.75

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