

# IPA ROLL COMPACTOR

## What is Roll Compaction?

Dry granulation by roll compaction uses pressure applied to counter rotating rolls in order to compress granules together without the use of binders. Compacted material is then milled and screened into a uniform final product in one easy process prior to packaging.

Roll compaction is a lean process requiring one operator to monitor the equipment, as compared to wet granulation systems. This, in conjunction with PLC controls that allow for a self-monitoring process, is the most cost effective way to agglomerate material.

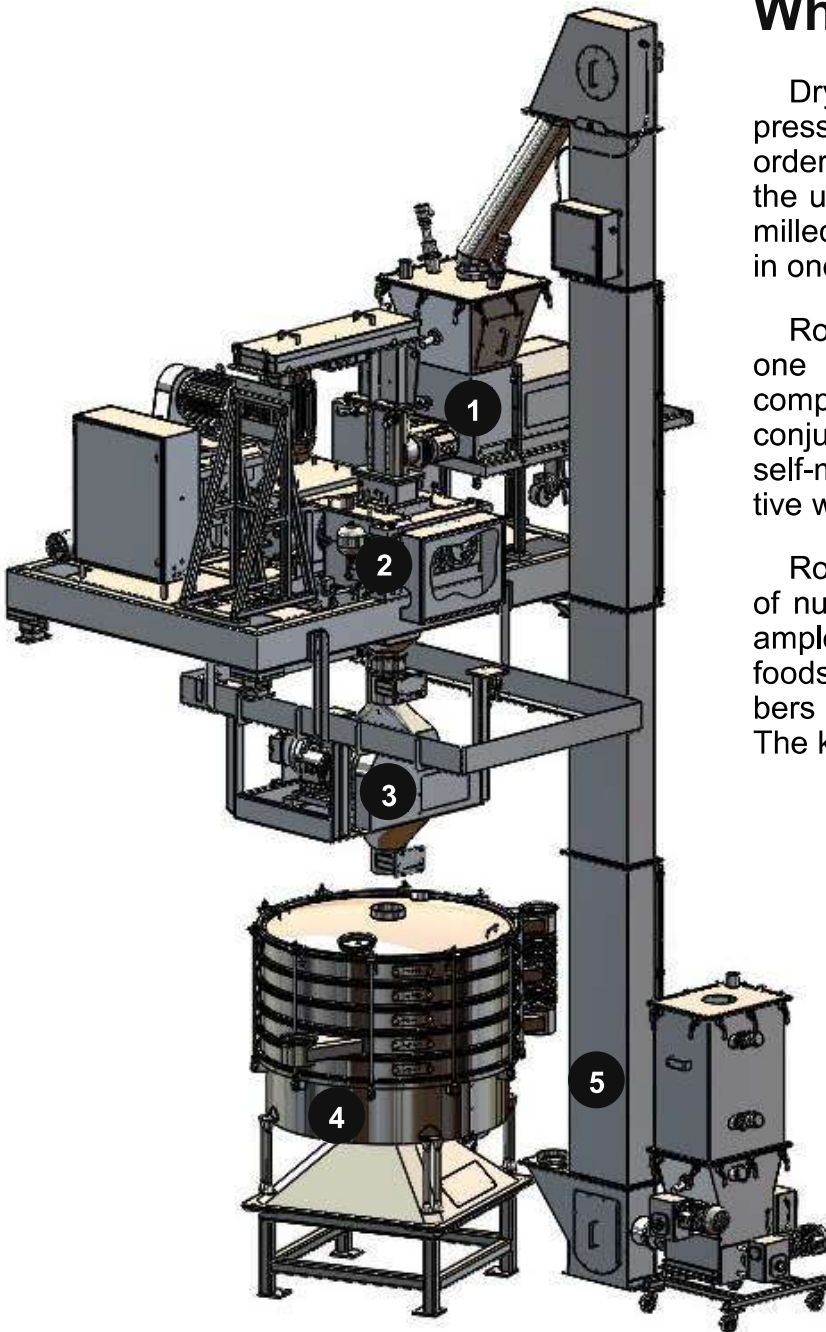
Roll compaction is used in the manufacturing of numerous daily consumer products. For example, raw ingredients used in processed foods, molding of plastics in your home/car, fibers used to make carpeting, etc.

The key reasons for agglomeration include:

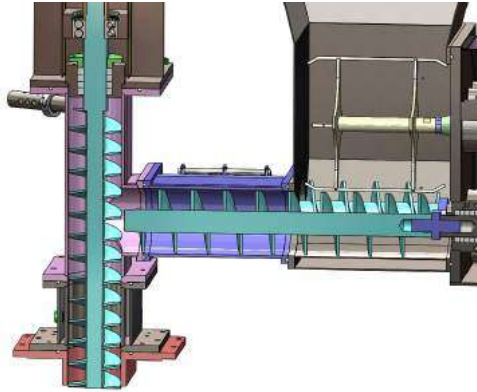
- Increase bulk density of powder
- Produce a uniform particle size
- Improve flow properties
- Minimize dust exposure to operators/ environment, and reduced losses, clean-up, & cross contamination

### What Makes IPA Different?

- Experience with inter-relationships between system components
- Quick Customer Service Response Rate
- Direct communication with project engineers
- Extensive troubleshooting background within the field

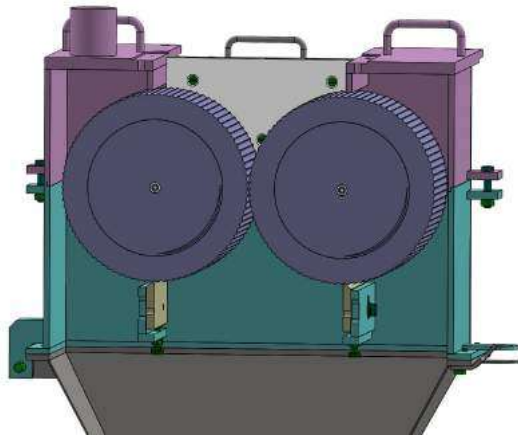


# Design Features.



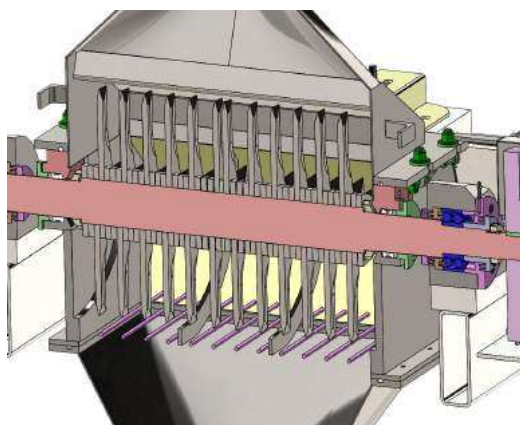
## 1 Feed System

IPA uses a unique twin feed screw design, ideal for processing fine powders. The Horizontal Feed Screw (HFS) controls the system throughput independently from the Vertical Feed Screws (VFS). With its adjustable speed, the VFS can remove various amounts of air from a wide density range of materials.



## 2 Rolls

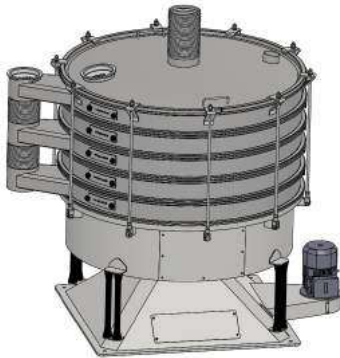
Once the feed system removes the air, using least amount of energy, the dense material is presented to the rolls where the majority of the compression is done to form the compact. This operating logic allows higher product yields, a more consistent product quality, lower system temperatures, and less wear on the product contact parts



## 3 Mill

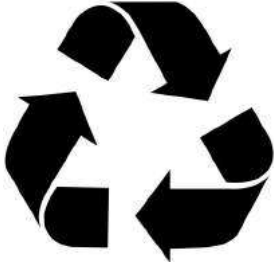
IPA uses an "in air" particle impact milling Method. This method has been tested and proven to increase yields and reduced fines as compared to low speed mills in which particles are "pinched" between the blade and the screen.

# Design Features Cont'd.



## 4 Screener

It is important to select the appropriate screener manufacturer and model for your application. This can be the most critical element to meeting your final product quality. Undersized screeners are a common mistake that restrict production and will lead to excess fines in your product.



## 5 Recycle

In order to obtain final product uniformity, it is critical to have a uniform blend of fresh feed and recycle. This can be done a number of ways and is determined by new construction vs. existing plant layout.

## System Features

### Vacuum De-Aeration

- This is an optional feature that is used in approximately 15% of our applications. Due to the efficiency of the Twin Feed Screw design, this feature is not typically required.

### Allen Bradley Controls

- IPA uses an Allen Bradley Compact Logix® PLC with an Allen Bradley Panel View Plus® operator interface for simple, one touch access to controlling the system parameters. This control package is compatible with most all DCS platforms.

### Customization

- IPA works with their customers to design the process for a specific installation. This requires an understanding of the up & downstream equipment in order to interface the equipment and controls.