

TFC Roll Compaction



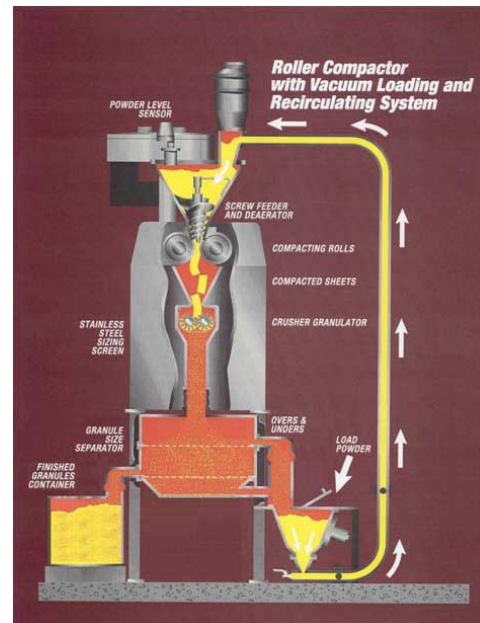
Your Global Equipment and Processing Solution

Continuous Pharmaceutical Granulation

The TFC is an easy-to-operate roll compactor system designed for continuous dry granulation processes. The TFC utilizes a unique roll system to compact powders into sheets or briquettes. The compacted sheets are milled to produce granules of a specific size. Particles that fall outside the desired size range can be re-circulated back into the TFC hopper where the product can be reprocessed. Production rates up to 600 kg/hr are available.



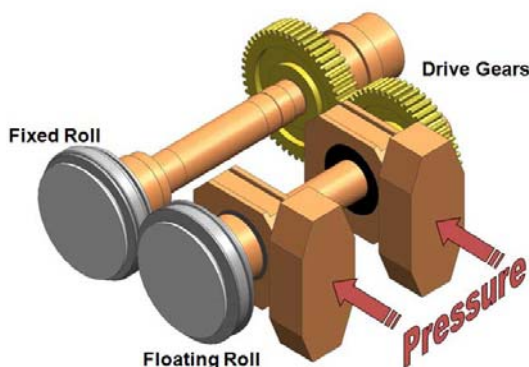
TFC-520 Roll Compactor System
1-100 kg/hr
Shown with optional knife mill.



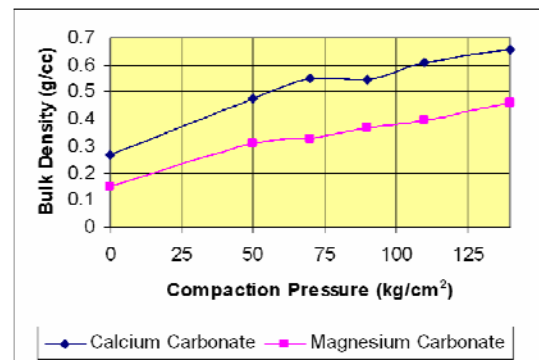
Typical Roll Compactor System
with Vacuum Loading and
Recirculation System

Granule Size Varies By Roll Pressure – Not Roll Gap

The pressure applied to the product within the compaction zone determines the final bulk density of granulation. Even though the roll gap may vary due to incoming product inconsistencies, the constant compaction pressure ensures granulation uniformity.



Schematic of TFC Compaction Zone



Compaction Pressure's effect on granule density

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TFC Roll Compaction

TFC Optimally Designed to Reduce Fines

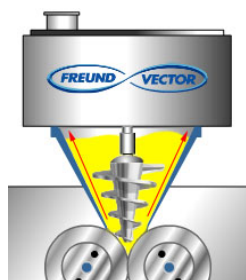
The TFC Roll Compactor features a unique roll shape and seal design that reduces the creation of fines during the process. A Concavo-Convex roll design is standard for all TFC systems. This design contains product within the compaction zone, minimizes powder leakage through the sides of the rolls, and ensures more uniform compaction pressure across the width of the rolls. The top and side seals are integrated directly into the roll design, reducing fines and improving processing yields.



TFC Seal Design Improves Processing Results



TFC 'Concavo-Convex' Rolls Captures Product in Compaction Zone



Red arrows depicts air escaping through side of In-Line hopper

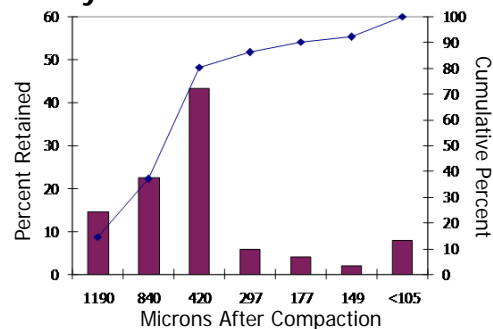
In-Line Deaeration

Product is delivered to the compaction zone with a tapered screw feeding system that effectively expresses entrapped air against the side walls. Any air remaining within the product can be removed, if needed, via an optional vacuum deaeration system.

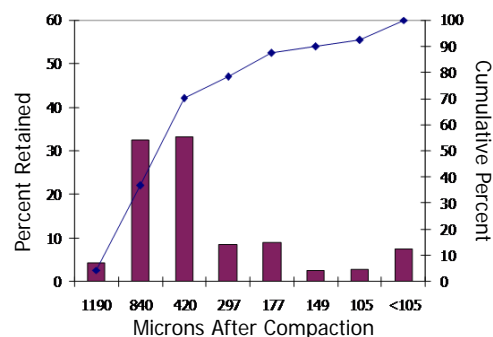


Optional Vacuum Assisted Deaeration at the Compaction Zone

Aspirin: < 10% Fines
Bulk Density: Increased from 0.28 to 0.64 g/cc



Calcium Supplement: < 10% Fines
Bulk Density: Increased from 0.30 to 0.56 g/cc



Providing equipment and processing solutions around the world since 1972, Vector is a subsidiary of Freund Corporation located in Tokyo, Japan. Globally, the Freund/Vector team has thousands of system installations in the pharmaceutical, healthcare, chemical, agricultural, and food industries.