Bradley PULVERIZER

CHAIN / FLAIL MILL

EFFICIENT SECONDARY MILLING FOR DEAGGLOMERATION

The chain mill is a proven, cost-effective solution for deagglomeration applications. With robust construction from carbon steel, the Bradley chain mill is custom designed to operate at high speeds for the purpose of deagglomerating cohesive and sticky high moisture materials at rates of up to 100 TPH. Its simplicity, ruggedness, and adaptability make it an indispensable link between the mixer and the granulator —ensuring higher throughput, better quality product, and lower operating costs.

HOW IT WORKS

The chain (or flail) mill is a robust size-reduction machine designed to break down cohesive sticky and/or soft to medium-hard materials. Inside the housing, multiple high-strength chains or flails are mounted to a rotating shaft which prevents material from adhering and obstructing the chain mill this prevents blockages. As the shaft spins at high speed, the chains swing outward and impact the feed material against a stationary liner or breaker plate. This repeated striking action pulverizes the material into a consistent particle size suitable for further processing.

The unit requires installation in a duct or below a hopper.

KEY FEATURES

VARIABLE FEED CAPABILITY

- ☐ Built to handle sticky, corrosive and/or abrasive agglomerated materials.

HIGH-SPEED ROTORS

- ☐ Chains deliver repeated impacts for reliable, efficient size reduction.

OPEN DISCHARGE DESIGN

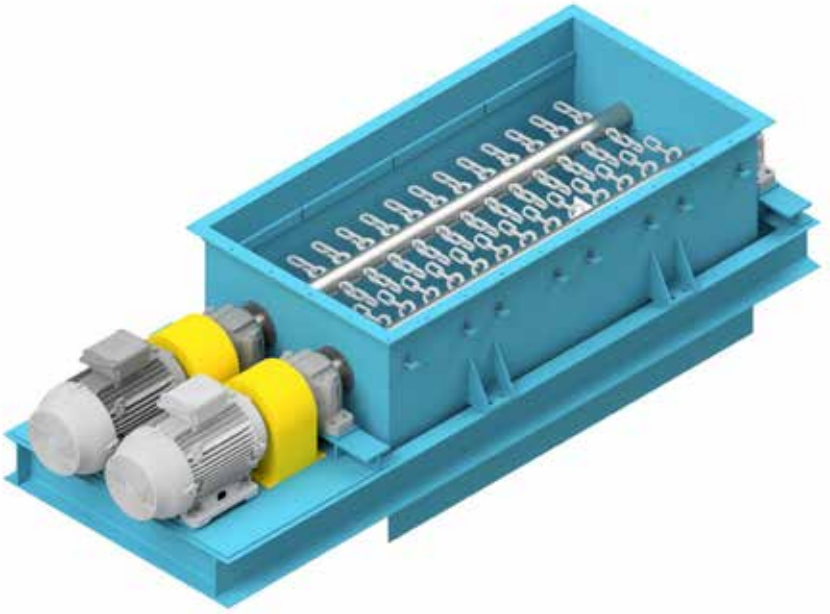
- ☐ Prevents clogging by allowing free flow of processed material.

REPLACEABLE WEAR COMPONENTS

- ☐ Chains and liners can be replaced quickly for minimal downtime.

COMPACT FOOTPRINT

- ☐ Easy to integrate into existing plant layouts.



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BENEFITS OF SECONDARY DEAGGLOMERATION

IMPROVED GRANULATION QUALITY

- ☐ Reduces oversize lumps and ensures more uniform granule formation in the granulator.

INCREASED PLANT EFFICIENCY

- ☐ Prevents bottlenecks by conditioning feed material for smooth flow.

REDUCED MAINTENANCE DOWNTIME

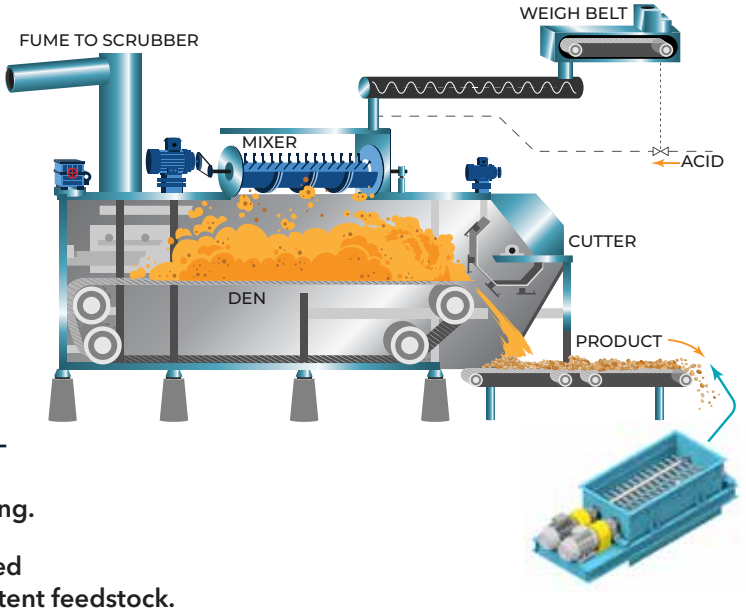
- ☐ Simple design with minimal moving parts lowers servicing costs.

ENHANCED PRODUCT CONSISTENCY

- ☐ Produces a homogenous feedstock, improving product quality.

CORROSION RESISTANCE

- ☐ Construction with specialty materials available to withstand harsh environments or for specialty products.



APPLICATIONS

FERTILISER INDUSTRY

- ☐ **SUPERPHOSPHATE (SSP, TSP, MAP/DAP) –** breaks down agglomerates, ensuring uniform granulation and improving downstream handling.
- ☐ **ORGANIC FERTILISERS –** reducing composted material, manures, or agglomerates into consistent feedstock.
- ☐ **CONDITIONING –** preparing partially dried or sticky masses for smooth handling.

CHEMICAL PROCESSING

- ☐ **SULPHUR-BASED MATERIALS –** crushing brittle or crystalline solids.
- ☐ **CARBON BLACK, PIGMENTS, OR ADDITIVES –** de-agglomerating before mixing.
- ☐ **RECYCLING CHEMICALS –** breaking waste product lumps into usable fractions.

WASTE & RECYCLING

- ☐ **MUNICIPAL WASTE TREATMENT –** breaking lumps of dried sludge cake or biosolids.
- ☐ **INDUSTRIAL BYPRODUCTS –** conditioning filter cakes, slags, or residues for reuse or disposal.

FERTILIZER INDUSTRY EXAMPLE:

In Superphosphate production, the chain mill is positioned prior to granulation, to break down the reaction mass and lumps.

FOR OVER **130** YEARS

Airswept Mills | Screen Mills | Air Classifiers | Process Units
Project & Design | Testing, Development & Consultancy

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