

Cracking mills

C-Series Cracking Mills

Product Overview, Applications and Technical Data

Controlled pre-cracking of granular materials into cracked pieces or coarse particles before flaking, oil pressing, solvent extraction or feed processing.



C-Series Cracking Mills



▲ Representative C-Series configuration shown. Final construction varies by model and project requirements.

C-Series cracking mills use controlled feeding and toothed rolls to open cleaned whole kernels into splits or coarse particles. The machine prepares material for downstream processes such as flaking, oil pressing, solvent extraction or feed processing, and can be integrated into an existing line or specified as part of a new process.

At a Glance

01
**Controlled feeding into
the roll working zone**

02
**Toothed-roll
compression and shear**

03
**Adjustable cracking
degree**

04
**Single-pair or
double-pair configurations**

Why It Matters

- Prepares material for the confirmed downstream process
- Supports controlled cracking rather than fine grinding
- Helps match the cracking approach to the material and process requirements

Designed for Pre-Cracking, Not Fine Grinding

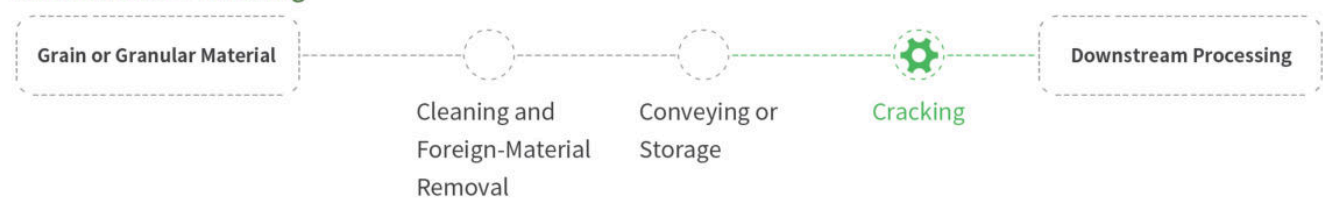
For fine powder, meal, flour or finished-pellet crumbling, use equipment designed for grinding or crumbling.

Fit the Cracking Stage to the Material and Downstream Process

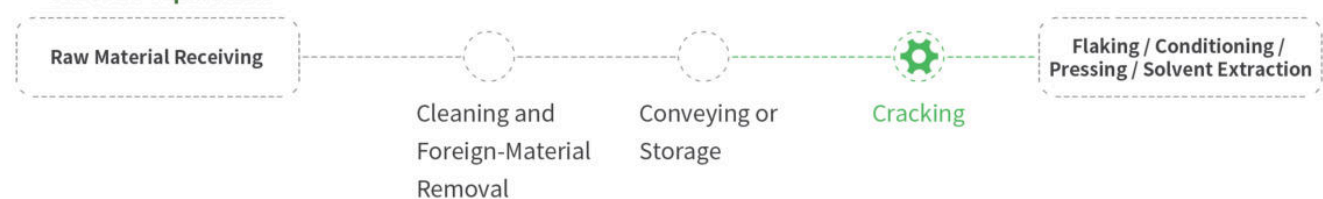


Typical Process Positions

Feed and Grain Processing



Oilseed Preparation



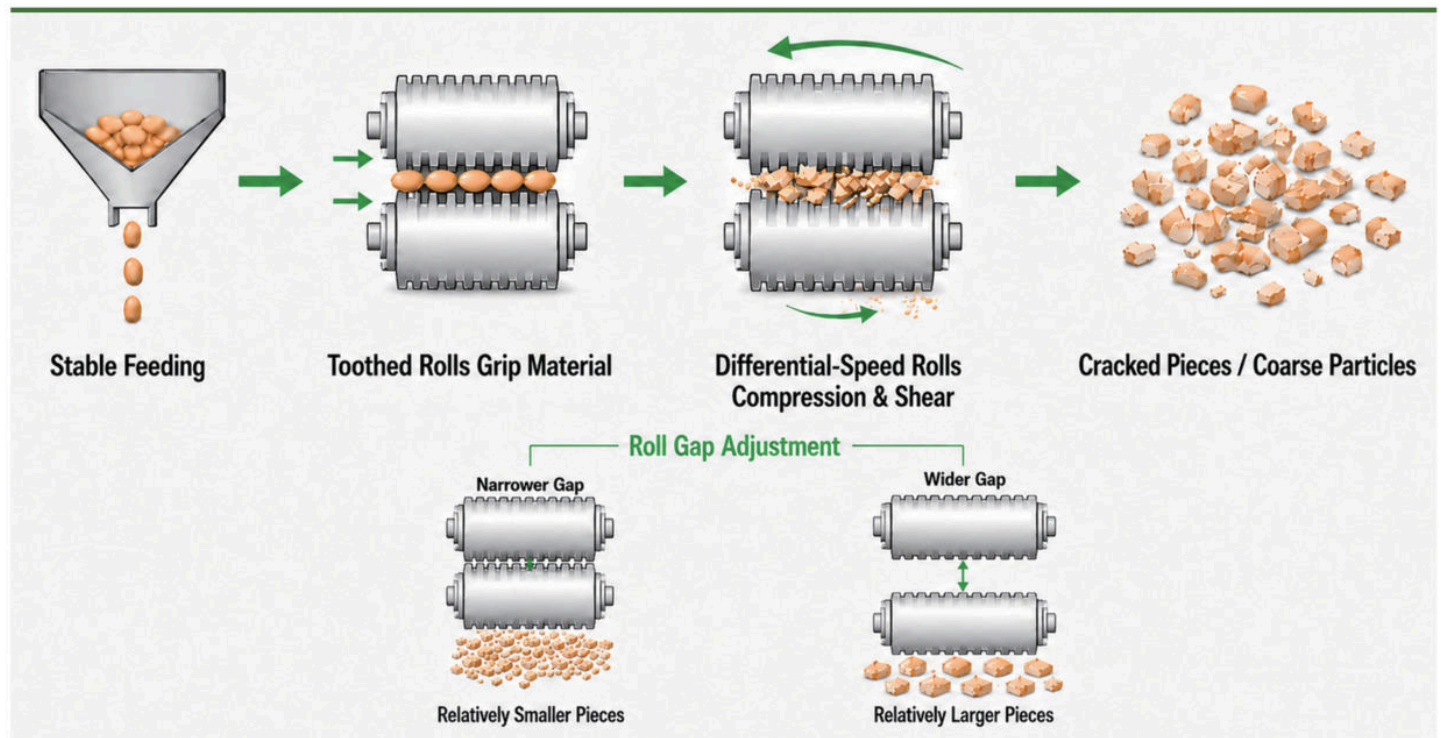
Pre-Cracking Before Flaking



Special or unverified materials require technical review and may require a sample trial.

A cracking mill does not replace normal upstream cleaning and foreign-material control.

How Controlled Cracking Works



Stable feeding, toothed-roll gripping, compression and shear, roll-gap control, and cracked pieces.

01

Stable Feeding

Supports more consistent material entry into the roll working zone.

02

Toothed-Roll Gripping and Differential Speed

The rolls grip the material and apply controlled compression and shear rather than high-speed impact.

03

Adjustable Roll Gap

Roll-gap adjustment influences the balance between cracking degree, uncracked kernels and fines.

04

Cracked Product for the Next Process Stage

The target is cracked pieces or coarse particles suited to the confirmed downstream process, rather than fine powder.

Schematic illustration only. Actual roll arrangement, gap setting and cracking result depend on the model, material and operating conditions.

Adjust the Cracking Result for the Next Process Stage

Material: Corn · Test unit: C25125 · Trial date: March 10, 2026 · Short-duration factory trial



Relatively Finer Output



Intermediate Output



Relatively Coarser Output

Different Degrees of Cracking

Visual comparison of relatively finer, intermediate and relatively coarser outputs from the same short factory trial.

Single-Pair and Double-Pair Reference



Single-Pair Mode
1.5 mm

Double-Pair Mode
Upper 1.5 mm / Lower 0.2 mm

Reference samples at the roll-gap settings indicated in the image.

Trial Output Inspection



Physical inspection of the cracked corn sample during the trial.

What Influences the Result

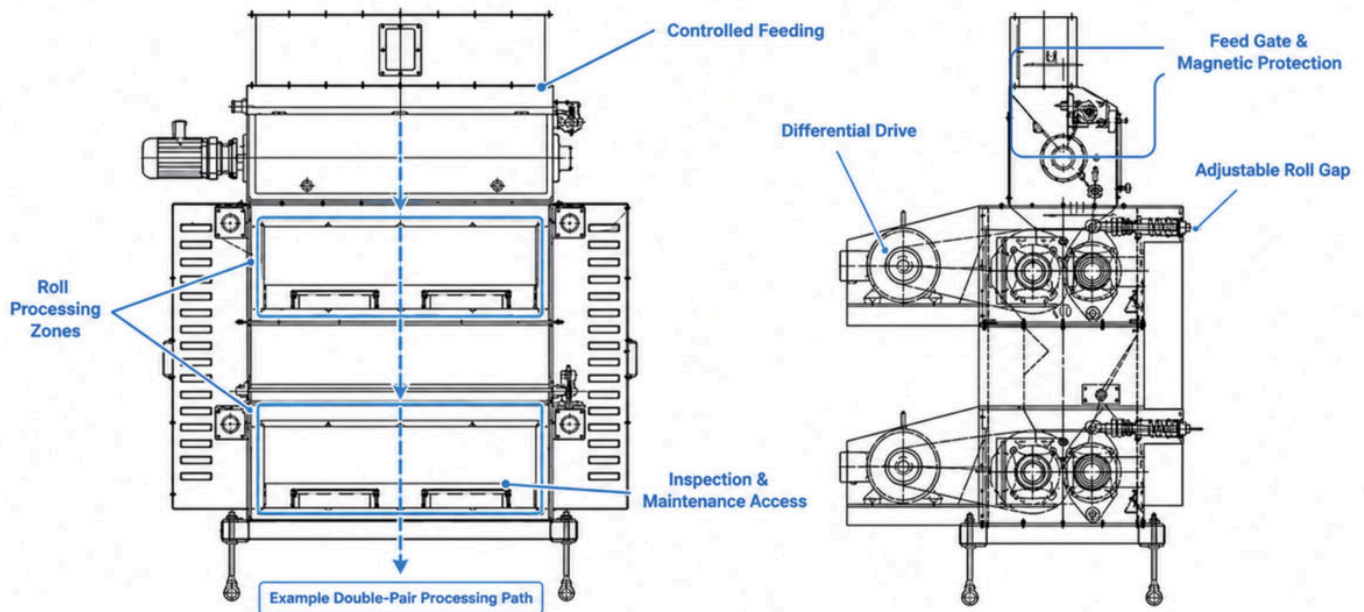
- ▶ Feed condition
- ▶ Stable feeding
- ▶ Roll gap
- ▶ Roll arrangement
- ▶ Target downstream process

When a Sample Trial May Be Recommended

A sample trial may be recommended for special or unverified materials, strict particle-size or fines requirements, high-moisture, sticky or caking conditions, retrofit projects, or applications without comparable records.

Trial images are visual references only. No sieve-analysis data are presented, and the images do not represent every material batch or continuous-production result. Final settings and configuration require project-specific technical confirmation.

Key Systems and Project Configuration



Representative double-pair configuration shown.
Actual construction and access arrangements vary by model and project requirements.

01 Controlled Feeding

The feeding arrangement supports more consistent material entry into the roll working zone and is matched to the material and upstream system.

02 Roll Assembly

Single-pair and double-pair arrangements may be considered for different cracking duties and target results. The applicable arrangement depends on the model and project requirements.

03 Roll-Gap Adjustment

Adjustable roll gap helps balance cracking degree, uncracked kernels and fines for the confirmed downstream process.

04 Differential Drive and Motor Configuration

Differential roll speed provides controlled compression and shear. Motor and electrical configuration are selected for the model and site conditions.

05 Protection, Inspection and Maintenance Access

Magnetic protection and accessible inspection areas support equipment protection, routine checking, cleaning and maintenance. Upstream cleaning remains necessary.

06 Project Options and Scope of Supply

Auxiliary equipment, interfaces and scope of supply are defined according to the process requirements, site conditions and confirmed project documents.

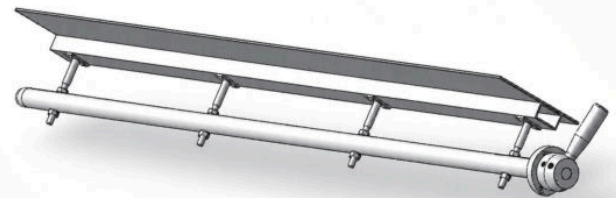
Final configuration, motor arrangement, auxiliary equipment and scope of supply depend on the material, process requirements, site conditions and confirmed project documents.

Design Features for Controlled Feeding, Product Protection and Maintenance Access



CONTROLLED MATERIAL ENTRY

Components supporting controlled material entry into the roll working zone.



Magnetic Protection Assembly

Helps intercept ferrous foreign material before the roll working zone.



Open Working-Zone Trial Reference

Reference view during a short factory trial.

01 • CONTROLLED MATERIAL ENTRY

Controlled Feeding for More Consistent Material Entry

The pneumatic feed flap and feeding assembly help regulate material entry into the roll working zone. Their final arrangement is matched to the material, upstream feed system and selected model.

Actual feeding stability depends on material flowability, upstream supply and confirmed operating settings.

02 • PRODUCT PROTECTION AND ACCESS

Magnetic Protection and Open Working Zone Access

The magnetic protection assembly helps intercept ferrous foreign material before it reaches the roll working zone. Open working-zone access supports observation during factory trials and provides access for routine cleaning and maintenance for the applicable model and configuration.

Upstream cleaning and foreign-material control remain necessary.

Final design details, material-contact configuration and access arrangements depend on the selected model and project requirements.

Model Range and Technical Data

Use the tables for preliminary comparison only. Final model selection depends on the material, required capacity and operating basis, feed condition, target result and downstream process.

Soybean • Source unit TPD

Model	Reference Capacity	Roll Dimensions	Reference Total Installed Power
C2560	30-60 TPD	250*600 mm	15.55KW
C2580	80-100 TPD	250*800 mm	22.55KW
C25100	150-200 TPD	250*1000 mm	22.55KW
C25125	180-250 TPD	250*1250 mm	30.55KW
C3100	200-250 TPD	300*1000 mm	30.55KW
C3125	250-300 TPD	300*1250 mm	37.55KW
C4100	300-350 TPD	400*1000 mm	30.55KW
C4125	350-400 TPD	400*1250 mm	37.55KW
C4150	400-500 TPD	400*1500 mm	44.55KW
C4210	900-1000 TPD	400*2100 mm	91.1KW

Corn • Source unit TPH

Model	Reference Capacity	Roll Dimensions	Reference Total Installed Power
C2580G	10 TPH	250*800 mm	22.55KW
C25100G	12 TPH	250*1000 mm	22.55KW
C25125G	15 TPH	250*1250 mm	30.55KW

How to Read the Data

01 • CAPACITY BASIS Soybean capacity is shown in TPD and corn capacity in TPH. No conversion between the two operating bases is made.	02 • MATERIAL SCOPE Soybean figures must not be generalized to all oilseeds, and corn figures must not be applied to other grains or blended materials.	03 • PROJECT CONFIRMATION Reference capacity is not guaranteed project capacity. Final model, configuration, power, interfaces and capacity suitability require Bellaex technical confirmation.
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Manufacturing, Trial and Delivery Preparation



Manufacturing and assembly follow the confirmed machine model, configuration and project documentation.



Factory Trial

Short factory trials may support technical review when the material or target result requires further confirmation.

Trial observations do not represent guaranteed continuous-production performance.



Factory Handling and Loading Preparation

Equipment handling and loading arrangements are organized according to the confirmed delivery plan.



Protective Packing

Protective packing is arranged according to the equipment and agreed shipment requirements.



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Excellent

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C-Series product page