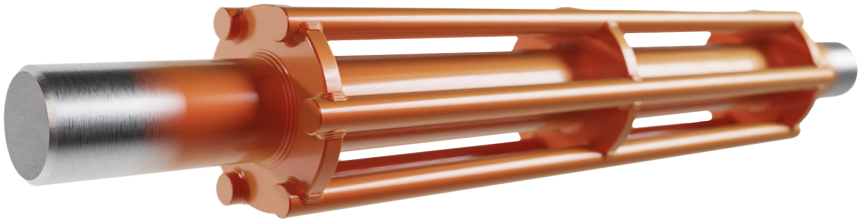
REPLACEMENT & AFTERMARKET

REPLACEMENT BEATER BAR RETURN IDLERS



Collaborate / Create / Convey

TABLE OF CONTENTS

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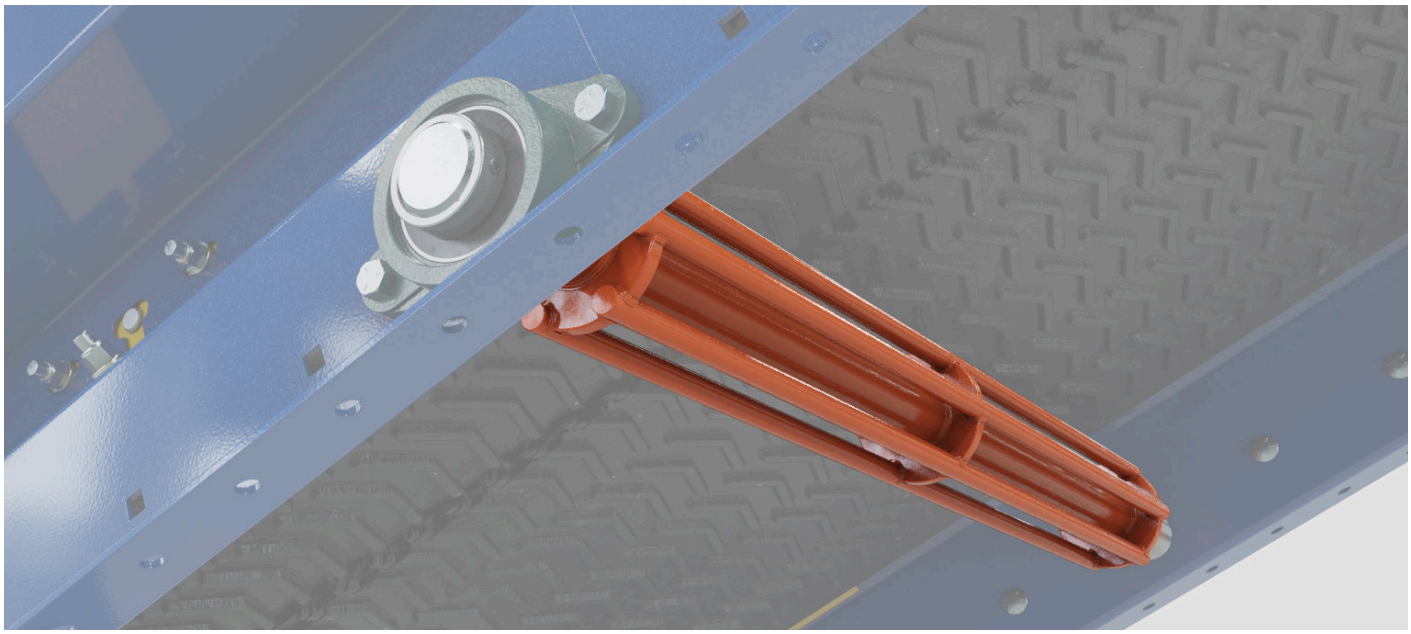


Replacement Beater Bar Return Idlers

Carryback, the material that clings to the belt past the discharge point, rides the return run and compacts onto standard return rolls. The buildup forms eccentric layers that mistrack the belt, accelerate cover wear, and shed fugitive material along the full length of the conveyor. On cleated and chevron belts, the problem compounds: raised profiles trap material that scrapers and smooth return rolls cannot reach. Left unmanaged, carryback converts directly into cleanup labor, belt damage, and lost production hours.

Beater bar return idlers, also known as squirrel cage return rolls, replace the solid roll face with an open cage of steel rods rotating around a stationary dead shaft. As the belt passes over the cage, the rods generate controlled vibration that dislodges stuck material, and the gaps between bars drop released material clear instead of letting it accumulate on the roll. Standard units carry CEMA class C or D ratings across belt widths of 18" – 96", with additional classes and custom widths available, and mount to 4.5" drop brackets for drop-in installation on trough, flat, slider bed, radial stacker, and sortation conveyors. Every replacement is specified against belt width, CEMA class, and operating environment to match the existing return idler frame exactly.

APPLICATIONS

Recycling & Material Recovery

Sort lines in material recovery facilities run mixed streams film, fiber, organics, and wet residuals that cling to cleated sortation belts and ride the return run past every picking station. Beater bar return idlers vibrate that residue off the belt between head pulley and tail, keeping 8 to 12-man pulley-driven sort conveyors clean without contacting or cutting the cleat profile.

Aggregate & Crushed Stone

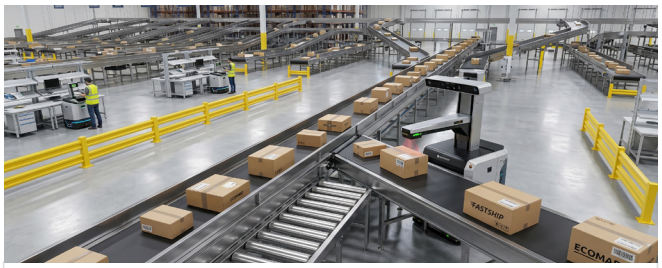
Crushing and screening circuits generate dust and fines that pack onto return rolls in dry, abrasive conditions. Dry-seal beater bar configurations knock compacted fines loose while reinforced bearing barriers block dust ingress.

Wash Plants & Dredging

High-moisture operations saturate belts with washed sand and fines that smear across the return side. Wet-seal and eco-seal configurations shake saturated material free while sealed ball bearings resist constant water exposure.

Bulk Material Handling

Troughed belt conveyors moving bulk material accumulate carryback wherever moisture or fines enter the stream. Beater bars positioned near the head pulley strip the heaviest buildup before it spreads down the return run.



Package Handling & Sortation

Flat belt sorting and package handling systems depend on clean return runs to hold tracking through continuous duty cycles. Open-cage return rolls clear adhered debris from flat belts without marking the belt surface.

Mobile & Radial Stacking

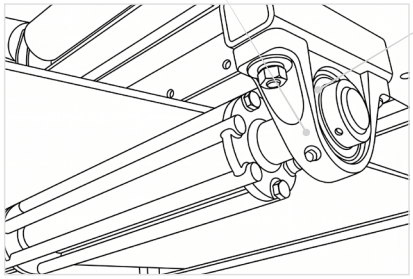
Radial stackers discharge stockpile material at height, where wind-blown fines and moisture drive buildup on return components. Drop-bracket-mounted beater bars retrofit onto stacker frames and release accumulated material through the open rod cage.

KEY FEATURES

01

4.5-Inch Drop Bracket Mounting:

Standard drop brackets at 4.5" height for CEMA C and D classes bolt directly to existing return idler frames, making each unit a drop-in replacement without frame modification.



02

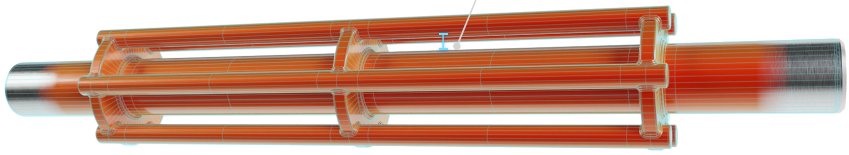
Preconfigured Seal Selection:

Eco, Titanium, Dry, and Wet idler seal series match bearing protection to washed sand, severe-duty, dusty aggregate, or high-moisture conditions, supplied factory-installed on every unit.

03

Open Steel Rod Cage:

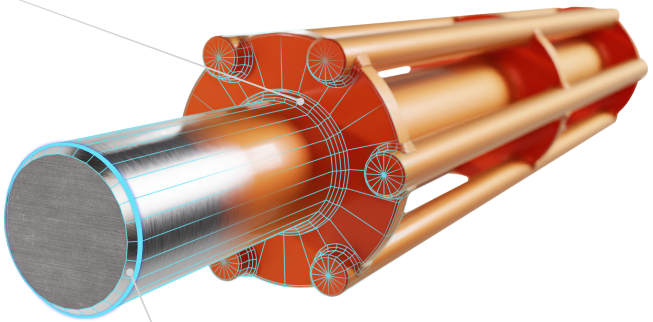
Steel rods arranged in an open cage generate controlled vibration as the belt passes, dislodging compacted carryback while the gaps between bars drop released material clear of the roll.

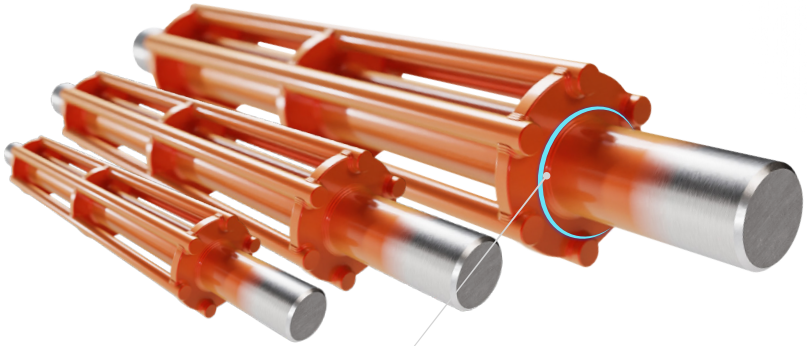


04

Sealed Ball Bearing Assembly:

Sealed ball bearings support the rotating cage and block dust, fines, and moisture from reaching the raceways in abrasive return-run environments.





05

Galvanized and Stainless Finish Options:

Painted carbon steel covers standard service, while galvanized and stainless steel finishes protect cage and shaft surfaces in corrosive or washdown environments.

06

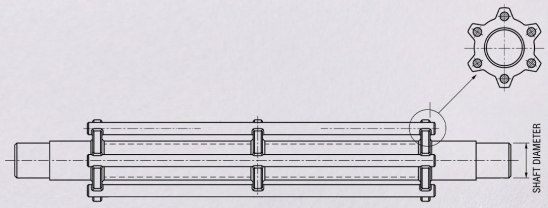
CEMA Duty Classification:

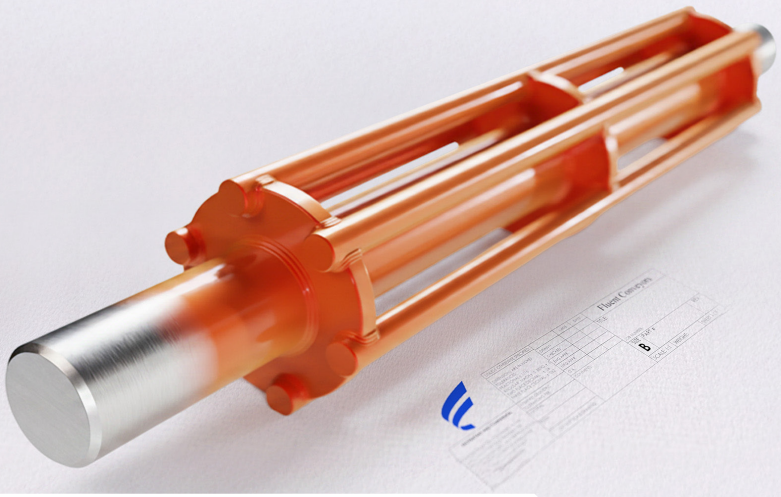
Rolls carry CEMA class C or D ratings sized against belt width, belt speed, and conveyor length, with additional classes sourced for applications outside the standard range.

07

Dead Shaft Configuration:

A stationary shaft carries the belt load while only the outer cage rotates, holding shaft stress static and confining all rotation to the bearing interfaces.





REPLACEMENT BEATER BAR RETURN IDLERS SPECIFICATIONS

Parameter	Standard specification
CEMA class	C, D (additional classes available)
Belt widths	18" – 96" (custom widths available)
Roll diameters	5" – 6"
Shaft sizes	1-7/16", 1-15/16"
Shaft design	Dead shaft (stationary) with rotating roll
Bearings	Sealed ball bearings
Mounting	Standard drop brackets, 4.5" height for CEMA C/D, compatible with existing frames
Finish options	Painted, galvanized, stainless steel
Typical spacing	8' – 10' on return run

Note: Position at least one unit near the head pulley where carryback concentrates. Reduce spacing and add units for cleated belts, sticky materials, or severe carryback conditions.

Environmental Sealing Reference

Seal series	Construction	Application
Eco	Combined-protection seal package	Extreme conditions with washed sand and fines
Titanium	Maximum-durability seal construction	Severe-duty applications
Dry	Reinforced barrier seals	Crushing, screening, and dusty aggregate handling
Wet	Enhanced moisture-exclusion seals	Wash plants, dredging, and high-moisture applications

THE ENGINEERING ADVANTAGE

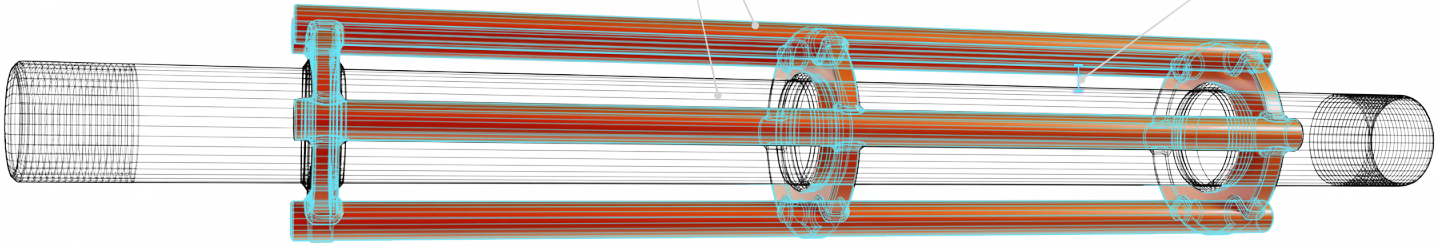
This section outlines the open-cage design methodology behind beater bar return idlers, covering rod geometry, shaft loading, belt contact profile, and mounting standardization to ensure exact frame fit and full service life on the return run.

Dead Shaft Load Path:

Belt load transfers through the rotating cage into a stationary shaft, keeping shaft stresses constant and isolating all rotational wear at the sealed bearing interfaces.

Open-Cage Geometry:

Gaps engineered between the steel rods eliminate the continuous roll face where carryback compacts, so dislodged material falls through the cage instead of building eccentric layers that mistrack the belt.

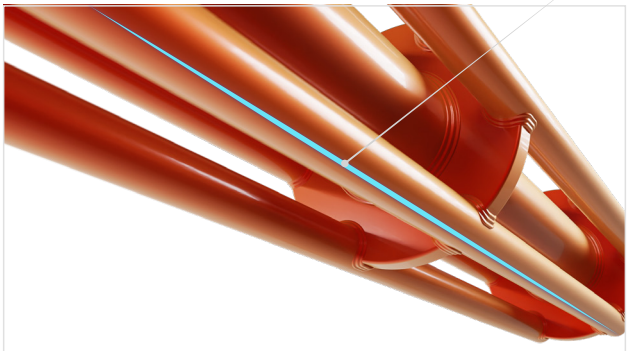


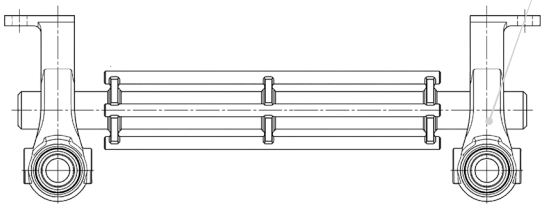
Round Rod Contact Profile:

Rod surfaces meet the belt without blade edges or scraping angles, cleaning raised cleat and chevron profiles through vibration rather than abrasion.

Standard Drop-Bracket Dimensioning:

Cage lengths, shaft sizes, and 4.5" bracket heights follow CEMA C and D return idler standards, so replacement units bolt into existing frames without cutting, drilling, or realignment.





CONTACT INFORMATION

OUR ENGINEERS WILL SPEC THE EXACT PART FOR YOUR SYSTEM

For product specifications, engineering support, or order inquiries, please contact our team using the information provided below. Our specialists are available to ensure accurate recommendations and efficient service for your application requirements.

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