



**Resolve field problems...!**

# SOLUTION PRODUCTS

*the Best* **30**

JRC highly recommend solution products that contribute to improving customer site safety and productivity are summarized in one book.

**Belt mistracking/misalignment**

**Efficient replacement of rollers**

**Adhesion of conveyed material**

**Spillage of conveyed material**

**Safety measures**

**Deposition of conveyed material**

**Overflow of conveyed material**

ADJUSTABLE A TYPE HOLDDOWN RETURN IDLER / HANG TRAINING RETURN IDLER / MANUAL TRAINING RETURN IDLER / TENSION WEIGHT GUIDE / SHOE TYPE TRAINING IDLER(carrier · return) / TRAINING CARRIER IDLER (HIGH SPEC) / UPLIFT PREVENTION · GATE TYPE CARRIER IDLER / TROIS GUIDE IDLER / TILT CARRIER IDLER / EAZY SLIDE CARRIER IDLER / JACK DOWN CARRIER IDLER / EAZY REPLACEABLE FLAT CARRIER BRACKET / CASSETTE RETURN IDLER / SWING RETURN IDLER / ASGCO SKALPER / MF-DIP CLEANER / ASGCO CHEVRON / NON STICK ROLLER / NON STICK PULLEY / SCRAPING UNIT / FALL PREVENTION RETURN ROLLER / SAFETY FENCE / SAFE GUARD / FRAME RETARDANT HEAVY OIL RESISTANCE RUBBER ROLLER / NS GUARD / IRON FALL PREVENTION RETURN ROLLER / DROP OUT · DEPOSITIONAL PREVENTION FENCE RETURN ROLLER / DEPOSITIONAL PREVENTION CARRIER IDLER / STUB ROLLER COVER / IMPACT SLIDE ..... and more



Resolve field problems...!









# SOLUTION PRODUCTS

*the Best*

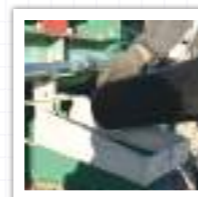
# 30







## 06 Belt mistracking/misalignment



-  **08** Correct mistracking from the return side by belt repulsion force  
**ADJUSTABLE A TYPE HOLDDOWN RETURN IDLER**
-  **09** Due to the hang type, conveyed material does not accumulate and the centering function continues for a long time.  
**HANG TRAINING RETURN IDLER**
-  **10** Front and back positions of rollers can be adjusted manually and freely.  
**MANUAL TRAINING RETURN IDLER**
-  **10** Suppressing inclination and swing of tension weights  
**TENSION WEIGHT GUIDE**
-  **11** Belt contacts "shoe" to instantaneously correct mistracking  
**SHOE TYPE TRAINING IDLER (carrier • return)**
-  **11** The frame turning performance has dramatically improved and evolved!  
**TRAINING CARRIER IDLER (HIGH SPEC)**
-  **12** Just the "gate keeper" of mistrack troubles caused by belt lifting  
**UPLIFT PREVENTION • GATE TYPE CARRIER IDLER**
-  **13** Achievement of adoption in a wide range of industries Strongest partners for mistracking countermeasures  
**TROIS GUIDE IDLER**







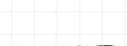
## 14 Efficient replacement of rollers



-  **16** Easy replacement from the clearance by simply tilting the frame  
**TILT CARRIER IDLER**
-  **16** Simply pull out the frame on the walkway side! Realizes quick roller replacement  
**EASY SLIDE CARRIER IDLER**
-  **17** New idea of the frame descending! Placing it in area with a narrow pitch width  
**JACK DOWN CARRIER IDLER**
-  **17** Easy replacement of flat carrier roller!  
**EASY REPLACEABLE FLAT CARRIER BRACKET**
-  **18** Turn around, immediate replacement! Effective for mistracking and spillage!  
**CASSETTE RETURN IDLER**
-  **19** When the roller receiver is rotated, the belt is pushed up by "principle of leverage!"  
**SWING RETURN IDLER**

## 20



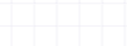


## Adhesion of carrying materials, spillage

-  **22** Powerful scraping and gently for belt that the strongest belt cleaner born in the United States  
**Blade type belt Cleaner ASGCO SKALPER**
-  **23** Follows the unevenness of the belt and evenly scrapes off the accretion  
**Tip-type Belt Cleaner MF-DIP Cleaner**
-  **24** Rubber disc type that fits the Medium Incline belt and belt with metal fastener  
**Rubber disc type belt cleaner ASGCO CHEVRON**
-  **25** The carrying materials does not stick due to the rebound elasticity of the soft rubber!  
**DANGOLESS ROLLER (NON STICK ROLLER)**
-  **25** The carrying materials does not stick due to the rebound elasticity of the soft rubber!  
**DANGOLESS PULLEY (NON STICK PULLEY)**
-  **26** Triple roller unit forcibly promotes falling off mine  
**SCRAPING UNIT**
-  **27** Reduced belt contact area and greatly reduced the amount of spillage  
**FALL PREVENTION RETURN ROLLER**



## 28





## Belt conveyor safety measures

-  **29** Compatible prevention of entanglement accident and daily maintainability  
**SAFETY FENCE**
-  **30** Cover combines prevention of rollers falling off and contact accidents with ease of cleaning  
**SAFE GUARD**
-  **31** Fire-resistant and self-extinguishing to prepare for an emergency fire  
**FRAME RETARDANT HEAVY OIL RESISTANCE RUBBER ROLLER**
-  **31** Preventing sparks from getting caught in foreign objects  
**NS GUARD**
-  **31** All-steel to reduce the risk of catch fire  
**IRON FALL PREVENTION RETURN ROLLER**



### [Other products]

## Accumulation/spillage of conveyed materials

-  **32** Evolutionary version of the fall-prevention fence that also prevents deposition in the fence  
**FALL&ACCUMULATION PREVENTION FENCE RETURN ROLLER**
-  **33** Frame structure in which conveyed materials are difficult to accumulate  
**DEPOSITIONAL PREVENTION CARRIER IDLER**
-  **33** Prevents stub roller rotation failure such as steep inclined conveyor changed angle  
**STUB ROLLER COVER**
-  **34** Spillage is greatly reduced by eliminating gap with skirt rubber  
**IMPACT SLIDE**



# Solutions to Belt Mistracking & Misalignment

## What is “Belt Mistracking & Misalignment”?

The phenomenon in which the conveyor belt deviates from its central position, oscillating erratically from side to side or shifting significantly to one side, instead of following its intended path.

## Main Causes of Belt Mistracking & Misalignment

Belt mistracking and misalignment are caused by a complex interplay of various factors. Therefore, it is crucial to identify the root causes of the problem and consider appropriate countermeasures.

### Various Factors Interact to Cause Trouble! \*Examples of Factors

- ✓ Conveyor Frame Tilt
- ✓ Belt Lift-Off
- ✓ Material Adhesion to Pulleys or Rollers
- ✓ Off-Center Loading at Transfer Points
- ✓ Belt Splice Failure
- ✓ Uneven Belt Wear
- ✓ Poor alignment of Pulleys or Rollers
- ✓ Tilt or Sway of Tension Weight
- ✓ Effects of Wind and Rain
- ✓ Improper Rotation of Pulleys or Rollers
- ✓ Resistance Imbalance Due to Skirt Rubber Wear

### Overlooking Problems Leads to More Serious Troubles

Belt mistracking & misalignment are caused by various factors, making it hard to identify the root cause. If left unaddressed, these issues can lead to more serious problems and significant damage.

#### Increased Cleaning Costs & Material Loss



Belt mistracking causes bulk material spillage, leading to higher cleaning costs and increased material loss.

#### Decreased Productivity



Frequent emergency stops due to belt misalignment detectors lead to a significant decline in productivity.

#### Increased Maintenance Expenses



The strain on consumables such as belts, drive components, and rollers leads to premature failure, resulting in higher repair costs. (Photo: Remnants of a belt torn in strips due to mistracking)

#### Key Points for Countermeasures

It is important to thoroughly check the entire system, not just the areas where the problem is occurring, but also the upstream sections of the conveyor to identify potential causes, and take appropriate countermeasures.

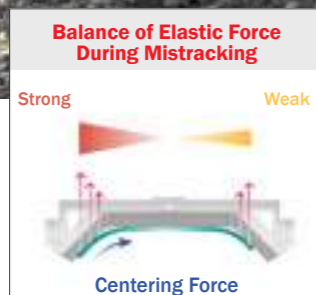
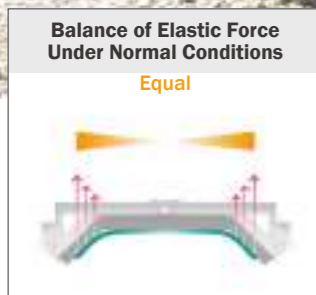


Okayama Sales Office  
Yu Chikira

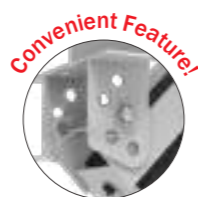
Discover Our Solutions on the Next Page!



## Corrects Belt Mistracking with the Belt's Elastic Force



Scan to watch the video



Tool-free adjustment with lynch pin!

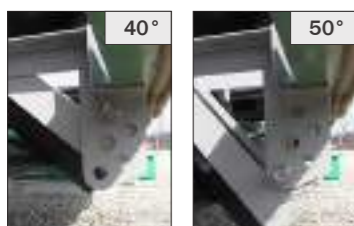
### ADJUSTABLE A-TYPE HOLDDOWN RETURN IDLER

Utility Model No. 3225596

The return idler uses the belt's own elastic force, generated by pressing the edge of the belt against the trough on the return side of the conveyor, to correct mistracking.

### Belt's natural tendency to return to the center: Elastic Force

When the belt is misaligned, one edge is pressed more firmly into the trough profile. This generates an elastic force that helps correct mistracking. Additionally, friction increases on the misaligned side due to belt tension, causing the belt to shift away from the high-friction area—further enhancing the centering effect.



### Adjustable Hold-down Angle

The 45° hold-down can be adjusted between 40° and 50° by inserting or removing the fixed pin.

## Suspended Design Prevents Material Accumulation, Extending Alignment Functionality



### HANG TRAINING RETURN IDLER

The idler, unlike conventional return-side self-centering idlers, features a 'suspended' design with the slewing frame located above the roller. This design reduces the accumulation of conveyed materials around the slewing shaft, helping to prevent the early degradation of the automatic alignment function and minimizing belt deviation.

Extending the self-centering function reduces concerns about belt damage from mistracking!



Osaka Sales Office  
Norihito Iwata



### Slewing Frame Above the Roller

By positioning the roller above the stand frame, the accumulation of conveyed materials around the slewing shaft is prevented, which helps maintain the self-centering function for a longer period.



### Enhanced Performance and Strength of the Swiveling Part

By installing a thrust bearing in the slewing part and reinforcing the center pin, the frame's slewing becomes smoother and more stable.



### Prevents Material Adhesion to the Roller

DANGOLESS ROLLER (P.25) lined with a soft rubber coating of hardness 32 resolves the issue of high-viscosity materials sticking to the roller.

### Not Just Pressing Down! Two Belt-Friendly Mechanisms

#### POINT 01 No Frame Contact

##### Two Roller Type



The belt may bend and make contact with the frame, especially if it has low stiffness.

##### Three Roller (Offset) Type



The belt bends without making contact with the frame, ensuring the edge of the belt is pressed accurately.

#### POINT 02 Seesaw theorem



The 'Seesaw theorem' is used to prevent excessive load on the endless part, where pressing one side causes the other side to open.

#### Another Way to Use It!



Removal of the top plate allows for individual adjustment of each side to different angles.

### Eliminates Accumulation & Preserves Self-Centering Function



Due to material accumulation at the bottom of the roller, the slewing shaft in the center of the frame became buried, causing the self-centering function to stop.



With the slewing part positioned at the top of the roller, there is no longer concern about accumulation. Additionally, the adoption of fall prevention rollers has successfully reduced material accumulation.

#### Roller change is effective!



Recommend "Fall prevention Return Roller" to reduce accumulation.

Return Side

Belt Mistracking & Misalignment



Tool-free adjustment with lynch pin!

## Manually Adjusts Front and Rear Roller Position with Fine Precision



### Adjustable Front and Rear Roller Position by Placing Pins

By simply inserting the included roller's front and rear position can be freely adjusted within a 10-degree range.



### Safely Adjustable Away from Rotating Parts

The bracket with holes for inserting and removing pins, along with the handle for moving the roller, are positioned on the outer side of the conveyor frame, ensuring safe adjustment.



## MANUAL TRAINING RETURN IDLER

Patent No. 6745601

The return idler corrects belt mistracking by manually adjusting the front and rear roller positions, allowing for fine-tuning whenever the belt tends to shift in a specific direction.

Scan to watch the video

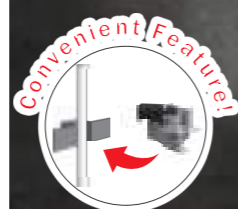


## Suppresses Tilting and Swaying of the Tension Weight



### TENSION WEIGHT GUIDE

The guide roller reduces tilting, swaying, and twisting of the tension weight during conveyor startup and operation by mounting it to the tension pulley support, helping to prevent belt mistracking and shifting.

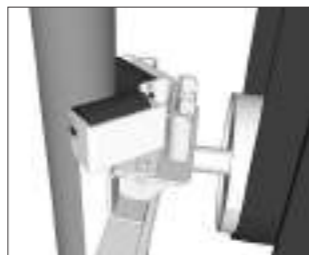


Easy and cost-effective retrofitting to existing equipment



### Easily Adjustable Heavy Tension Weights with Fine Precision

The two guide rollers push back and correct the shift of the support pillar. With the ability to freely install in the optimal position, adjusting the heavy tension weight becomes simple and precise.



### Prevents Equipment Wear

The guide rollers are installed at the contact points with the support pillar, allowing smooth adjustment of the weight position. This eliminates wobbling and friction, preventing equipment wear and reducing maintenance costs.

## Instantly Corrects Belt Mistracking by Contacting the "Shoe"

### SHOE TYPE TRAINING IDLER (carrier · return)

The idler corrects belt mistracking by contact friction with special metal parts called "Shoe" located symmetrically at both ends of the frame. The frame slaws to adjust the mistracking. Available for both carrier and return use.



Carrier Side

Belt Mistracking & Misalignment



Compatible with Both Forward and Reverse Conveyors

\* The picture is a return idler.



### Adjustable Mistracking Area

The "shoe" height can be adjusted to match site conditions, modifying the contact angle and mistracking area for easy belt misalignment correction.



### Individual "Shoe" Replacement for Easy Maintenance

Even with wear over time, the "shoe" can be replaced on its own, eliminating the need to replace the entire frame. This makes maintenance simple and cost-effective.

## Dramatically Improved Frame Slewing Performance!

### TRAINING CARRIER IDLER (HIGH SPEC)

The idler frame slews around a central pin at a fixed angle. When the belt mistracks and contacts the guide roller, the frame slews to center the belt on the conveyor, using the resistance generated to correct its position.



Scan to watch the video



Three-Stage Mistracking Margin Adjustment Available!



### Enhanced Performance and Strength of the Slewing Part

By installing thrust bearings in the slewing part and reinforcing the central pin, smoother and more stable frame rotation is now possible.



### Enhanced Slewing Performance with Support Bearings

By installing two support bearings (per side) at the bottom of the slewing frame, the motion is made smoother, enabling stable mistracking adjustment.

# The 'Gatekeeper' to Mistracking Caused by Belt Lift-Off



## BELT FLOATING-UP PREVENTION - GATE TYPE CARRIER IDLER

Utility Model No. 3215812

The carrier idler prevents mistracking caused by belt lift-off by using horizontally and vertically arranged 'hold-down rollers' and 'guide rollers,' ensuring stable operation and contributing to overall productivity improvement.

The idler prevents mistracking without damaging the belt and reduces bulk material spillage - a true 'dual-function' product. Please consider implementing it.



### Increased Belt Lifespan

By using an offset design with horizontally and vertically arranged rollers, the belt is prevented from getting caught between rollers, contributing to extended belt life.



### No Installation Costs or Hassle

By ensuring dimensional compatibility with existing carrier idlers, no modifications to the conveyor frame are required, eliminating installation costs and effort.

## Belt Damage Prevention Design



The belt was forcibly pressed down by the wheels, causing belt damage and contributing to mistracking.

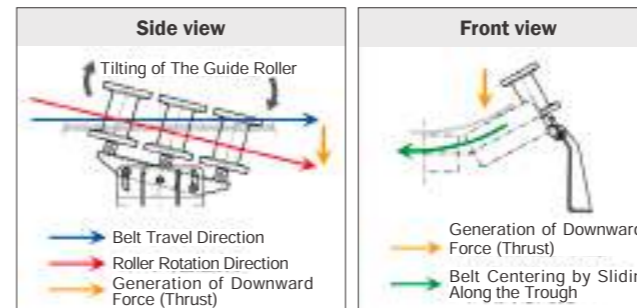


The hold-down roller and guide roller functions prevent belt lift-off and mistracking, ensuring stable operation.

**Synergistic Mistracking Solutions**

Combining with Other Mistracking Solutions, such as the Trough-type Guide Idler (P. 13), Further Increases Effectiveness!

# The Ultimate Partner in Mistracking Prevention, Adopted Across Industries



### Utilizes the 'Thrust' Generated by Tilting the Guide

By slightly tilting the guide in the direction of the belt's travel, a downward force (thrust) is generated, which helps return the belt to the center of the conveyor, following the trough. This principle is used for mistracking adjustment.

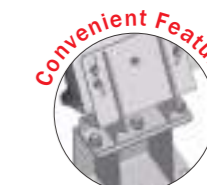
Scan to watch the video



## TROIS GUIDE IDLER

Patent No. 6272704

This is JRC's original solution for belt mistracking.



Two Long Holes Allow Mistracking Adjustment!



### Unique Drum-Shaped Guide Rollers

By arranging three drum-shaped guide rollers with flanges on the top and bottom in a row and tilting them in the direction of the belt's travel, belt lift-off and sag are prevented, effectively suppressing mistracking.



### Wear-Resistant Cast Iron Construction

The use of guide rollers made from highly wear-resistant ductile cast iron (FCD450) allows for effective long-term correction of belt mistracking and misalignment.

## Wide Range of Options for Customer Needs



Drum-Type (Standard)



Drum-Type (Guide Split Type)



Drum-Type Long



Single Shaft Type



Single Shaft Type Long

We propose the optimal product type based on customer requirements, conveyor specifications, and site conditions, including areas with skirt rubber contact or vertical belt movement, such as a tripper.

In addition to the five types above, we have a proven track record of adopting various special types of 'Trough-type' designs. Please feel free to contact us. (Trough = named after the French word for 'three' (trois)!)



Kanto Block  
Masatake Nakata

High or Difficult-to-Reach Areas

Narrow Walkways

Areas with Narrow Roller Pitch

Confined Spaces such as Underground Pits

Safe and Quick Roller Replacement

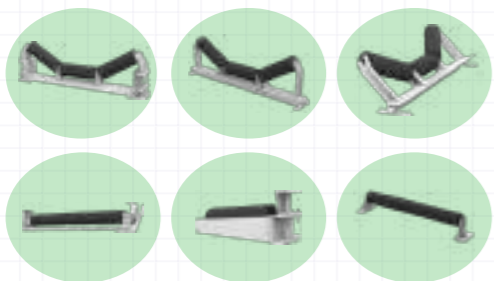
Even in Challenging Environments!



Solutions to Improving

Roller Replacement Efficiency

Enhance Your Operations with JRC's Solution Products!



Goals of Improving Efficiency in Roller Replacement Work

The roller replacement work for damaged rollers is complicated and strenuous, but it aims to resolve the dilemma faced by conveyor users, where neglecting it leads to belt damage and increased costs.

Solution Promotion Dept. Takuya Kase



Discover Our Solutions on the Next Page!



Do you face any of the following problems?

Common Roller Replacement Issues

Belt conveyor roller replacement often involves large-scale tasks, such as lifting the belt or loosening the tension, and carries the risk of unexpected accidents in confined spaces, including high areas and underground pits.

Decreased Productivity



Extended replacement work increases equipment downtime, leading to reduced productivity.

Risk of Accidents



Replacing heavy rollers at heights or in confined, dark spaces poses unexpected dangers.

Increased Maintenance Costs



The complexity of the replacement process can lead to neglecting damaged rollers, raising belt repair and maintenance costs.

Carrier Side

Roller Replacement

## Just Tilt the Frame for Easy Roller Replacement

Scan to watch the video



### TILT CARRIER IDLER

Simply Tilt to Save Over 90% in Work Time!

Remove the fixing bolts

Tilt the Frame

Replace the roller through the clearance to belt

01



02



03



### Recommended for Areas Where the Belt Can't Be Lifted!

This idler allows for easy and safe roller replacement in areas where the belt cannot be lifted, such as locations where the skirt interferes, by tilting the frame.

## Simply Pull Out the Frame for Quick Roller Replacement!

Scan to watch the video



### EAZY SLIDE CARRIER IDLER

Recommended for Sites with Ample Walkway Space

This idler allows for easy and safe roller replacement by pulling out the two-part frame toward the walkway side, eliminating the need to lift the belt or worry about skirt rubber interference.

Simply Pull Out the Frame for Quick Roller Replacement!

Remove the fixing bolts

Pull out the Frame

Replace the roller

01



02



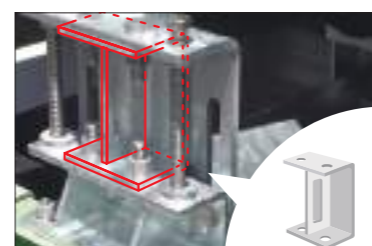
03



## Innovative Frame Lowering for Narrow-Pitch Areas



### JACK DOWN CARRIER IDLER



### Impact-Resistant Structure for Use Under Chutes

Designed with a 'U-Bracket' to Absorb Loads, Ideal for High-Impact Areas such as Transfer Chutes"

Scan to watch the video



When I saw that the carrier pitch under the transfer chute was narrow and there wasn't enough space to tilt the TILT CARRIER IDLER (P.16), this product instantly came to mind!



Maintenance Dept. Kazuhiro Zaima

Frame Lowering Creates a Clearance Between the Belt and Rollers!

Remove the U-bracket

Lower the frame

Replace the roller through the clearance

01



02



03



## Easy-to-Replace Bracket

### EAZY REPLACEABLE FLAT CARRIER BRACKET



3 Easy Steps to Instant Replacement!

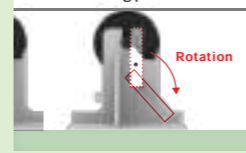
Rotate the fixing plate

Roll to the stopper

Replace rollers through the clearance

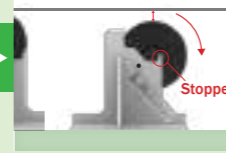
01

After removing the fixing bolts of the fixing plate



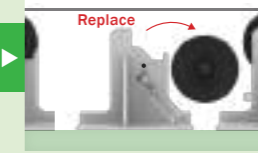
02

Roll to the stopper



03

Replace rollers through the clearance



Recommended for systems with flat designs, like steep incline conveyors.

This product dramatically simplifies the replacement work of the flat carrier roller.

Recommended Workplaces for Our Solution!

Return Side

Roller Replacement

# Rotate and replace—it's that easy!



Convenient Feature!



Tool-free replacement with lynch pin!

Scan to watch the video



## CASSETTE RETURN IDLER

Utility Model No. 3227969



### 3 Easy Steps to Instant Replacement!

Remove the lynch pins

Rotate the bracket

Replace the roller



### Left/Right Split & One-Piece Replacement

This return idler enables easy one-sided roller replacement, making it compact and portable. Just remove the lynch pins and rotate the roller toward the walkway. Adjustable tilt settings help reduce spillage and fix mistracking.

Replacing the return roller may involve working at heights. To ensure worker safety and improve efficiency, we recommend our lightweight and portable product, which helps shorten work time and reduce the risk of accidents.



Okayama Sales Office  
Kenta Sugihara



### Reduces Spillage with Side-Only Contact

The split-side idler design prevents contact between the roller and the center of the belt, helping to reduce material spillage during conveying.



### Forward & Backward Tilt Adjustable

The bracket on the shaft side features three bearings, allowing for easy adjustment of the roller angle to forward tilt, standard tilt, or backward tilt.



# Leverage lifts the belt, creating space for easy roller replacement!

## SWING RETURN IDLER

Utility Model No. 3234953

The return idler utilizes the handle to turn the roller support, causing the tapered pipe to lift the belt. This creates a gap between the roller and the belt, allowing for easy roller replacement.

In large conveyor belts, the belt tension is high, making roller replacement extremely challenging. We developed this product with the hope of making that dangerous and demanding task a little easier.



Solution Promotion Dept.  
Mitsuyoshi Higashine

Scan to watch the video



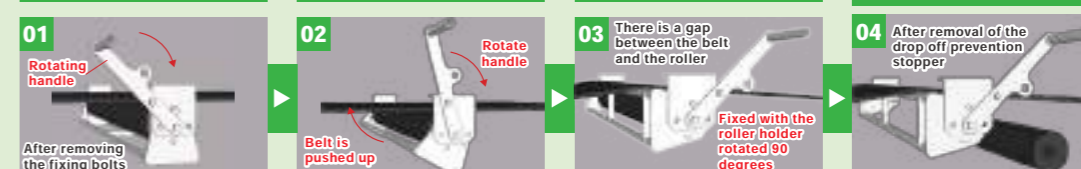
### Easy Roller Replacement with Simple Handle Operation

Attach the handle

Turn the handle

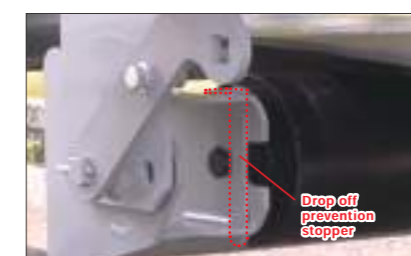
Secure the handle

Replace the roller through the clearance



### Automatic Belt Lifting

By turning the roller support, the tapered pipe lifts the belt, creating the clearance between the belt and roller, making replacement easy and safe.



### Roller Fall Prevention Design During Rotation

The anti-fall stopper prevents accidental roller detachment during the turning of the roller support, ensuring safety during high-altitude work and other operations.

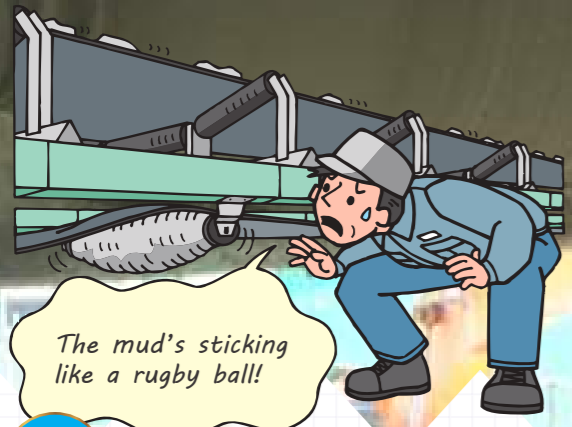


### Two-Handed Operation with Handle Locking

By securing the handle with a stopper, two-handed operation is enabled, allowing for quick and safe roller replacement with fewer personnel.

Key to ease of maintenance 

# Solutions to Material



 **Material Buildup Leading to Belt Mistracking & Misalignment**



## Three Approaches to Prevent Adhesion

- 1 Completely remove adhesion inside the head chute.
- 2 Prevent adhesion on the belt surface beyond the head.
- 3 Prevent buildup on rollers/pulleys

## Why Does Adhesion Occur?

Small particles in the conveyed material absorb moisture, becoming sticky and adhering to the belt, rollers, or pulleys.



### What Happens If Left Unaddressed?



Discover Our Solutions on the Next Page!

# Adhesion & Spillage

Solution product



 **Increase in Cleaning Efforts Leading to Higher Costs & Risk of Accidents**

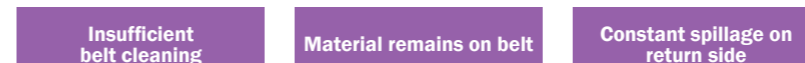


## Three Approaches to Address Material Spillage Issues

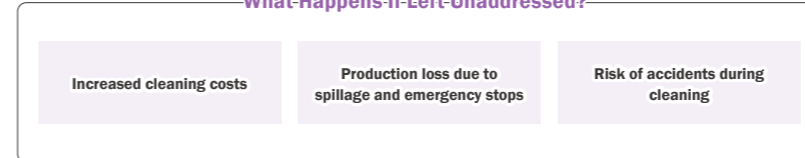
- 1 Prevent Adhesion to the Belt
- 2 Prevent Mineral Spillage in Hard-to-Clean or Hazardous Areas
- 3 Promote Spillage in Safe, Easy-to-Clean Areas

## Why Does Material Spillage Occur?

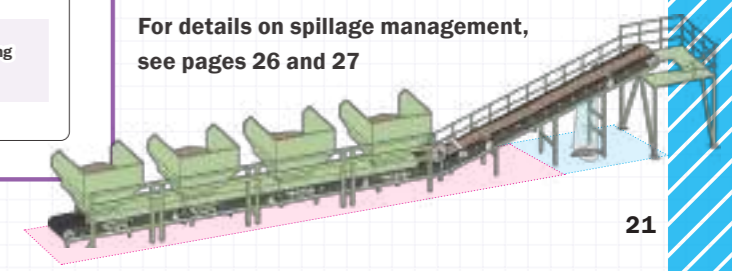
Material adhered to the belt falls off when passing over the return rollers.



### What Happens If Left Unaddressed?



For details on spillage management, see pages 26 and 27



Belt cleaner

Adhesion

# The Strongest Conveyor Belt Cleaner from ASGCO – Powerful and Belt-Friendly



Wear indicator shows blade wear and replacement timing at a glance.



## Blade type belt Cleaner ASGCO SKALPER



### High-Performance Blade

The blade is made from unique polyurethane, offering excellent wear resistance. It maintains a sharp edge that continuously contacts the belt. Its one-piece design prevents material jamming, unlike segmented blades.



### Easy Blade Replacement

The blade replacement is simple and quick—just remove and reinsert two pins without the need for tools, allowing for fast and efficient maintenance.



### Automatic Tensioner

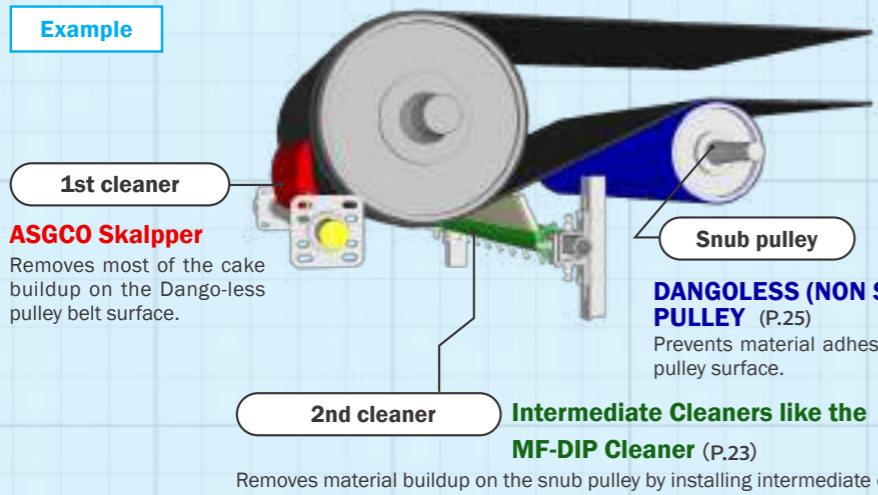
The automatic tensioner uses a large corrosion-resistant stainless steel torsion spring to automatically adjust the blade tension, ensuring consistent and optimal cleaning performance.

### Powerful Belt Cleaner Engineered in the USA

Imported directly from ASGCO, with our company as the exclusive distributor in Japan. This cleaner features a robust construction designed to withstand harsh operating environments, combined with exceptional power that effectively removes all types of materials adhered to conveyor belts. It also offers easy blade replacement, an automatic tension adjustment system that is gentle on belts, and many other outstanding features. As a result, it has become a popular choice for many customers, leading to numerous new installations and upgrades of existing equipment in recent years.

## Effectively Combine Products for Optimal Cleaning!

Example



1st cleaner

**ASGCO Skalpper**  
Removes most of the cake buildup on the Dango-less pulley belt surface.

Snub pulley

**DANGOLESS (NON STICK) PULLEY (P.25)**  
Prevents material adhesion to the pulley surface.

2nd cleaner

**Intermediate Cleaners like the MF-DIP Cleaner (P.23)**

Removes material buildup on the snub pulley by installing intermediate cleaners

Improper adjustment or functionality of the 1st belt cleaner (head pulley installation) can cause issues like malfunctioning of the 2nd cleaner, belt fluttering, material buildup, and tracking problems.

As shown in the diagram, combining products effectively removes materials in the head chute and reduces the risk of further adhesion.

## Follows Belt's Uneven Surface and Uniformly Scrapes Off Adhesions



## Tip-type Belt Cleaner MF-DIP Cleaner

Based on the shape of the conveyed items and the conveyor belt, you can freely choose the "chip material," "frame material," and "contact width" to suit your application, just like a custom-made option.



Kitakanto Sales Office  
Ryotaro Takemasa



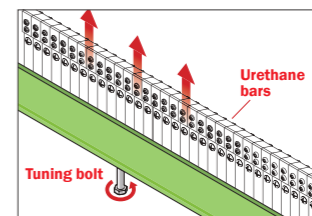
### Segmented Tungsten Carbide Chips

The wear-resistant tungsten carbide chips, segmented into 15mm widths, minimize gaps between the belt and the cleaner. They flexibly follow uneven surfaces, vibrations, and mistracking, providing long-lasting, powerful removal of adhered materials.



### Belt-Friendly Elasticity

The urethane bar, with excellent elasticity, absorbs shocks and gently scrapes off adhered materials without damaging the belt, including the endless section. No re-adjustment is needed in a short period.



### Minimized Gap with the Belt

The cleaner's tip shape can be freely adjusted to match the belt's uneven surface. (By using the tuning bolt at the bottom, the urethane bar is pressed against the belt.)

### Belt-Friendly Mechanism for Long-Term Maintenance-Free Operation

By using small, segmented chips, this cleaner achieves uniform contact with the belt, overcoming the challenges faced by traditional chip-style cleaners. The urethane bar flexibly follows the belt's uneven surface, vertical vibrations, and tracking, providing gentle yet powerful scraping that lasts for an extended period without maintenance.

## Other 2nd (Intermediate) Belt Cleaners



### NVC-SAα type

The cleaner is an improved version of the SA type within the NVC-S model series, which is considered the standard for intermediate type belt cleaners, offering enhanced scraping performance and maintenance capabilities.



### BELLE BANNE U-3

The cleaner features a bow-shaped single chip that applies maximum pressure to the center of the belt, offering excellent adaptability to the belt's trough shape. Its escape structure ensures enhanced safety.

• In addition to the above introduction items, we also handle a variety of intermediate cleaners. For details, please feel free to contact your local sales office.

Belt cleaner

Adhesion

# Belt-Fitting Rubber Disc Type Ideal for Center-Joined or Metal-Connected Belts



## Rubber disc type belt cleaner ASGCO CHEVRON



The removability of the rubber disc as a single unit for cost-effectiveness.



### Adhesion Prevention of Special Belts

The cleaner, developed by ASGCO, is a unique "Rubber Disc Type" belt cleaner in Japan and can be used with special belts, such as "V-Cleat" and "Cleat" belts, which have horizontal cleats on their surfaces, making conventional scraper-type cleaners unsuitable for use.



### Suitable for All Types of Conveyed Materials

The unique rubber disk, featuring slits around its circumference, is designed to handle a wide range of conveyed materials. It efficiently transports coal, iron ore, wood chips, chemical fertilizers, and more, whether in wet or dry conditions.



### No Power Required for Rotation

The rubber disk rotates in sync with the movement of the belt, eliminating the need for motors or air power. Maintenance is also simple and straightforward.



### Minimized Belt Damage

Rubber discs offer excellent flexibility and wear resistance, and can be used in a variety of shapes. It continues to scrape the deposits strongly without damaging the surface of the belt.

## ASGCO CHEVRON for Removal of Adhered Materials on Special Belts

(V-)Cleat belt

Metal-Fastener belt

The rubber disc can flexibly fit into the uneven areas of flat belts, as well as (V-)Cleat belts and belts with heat-vulcanized/metal fasteners, making it suitable for adhesion removal!

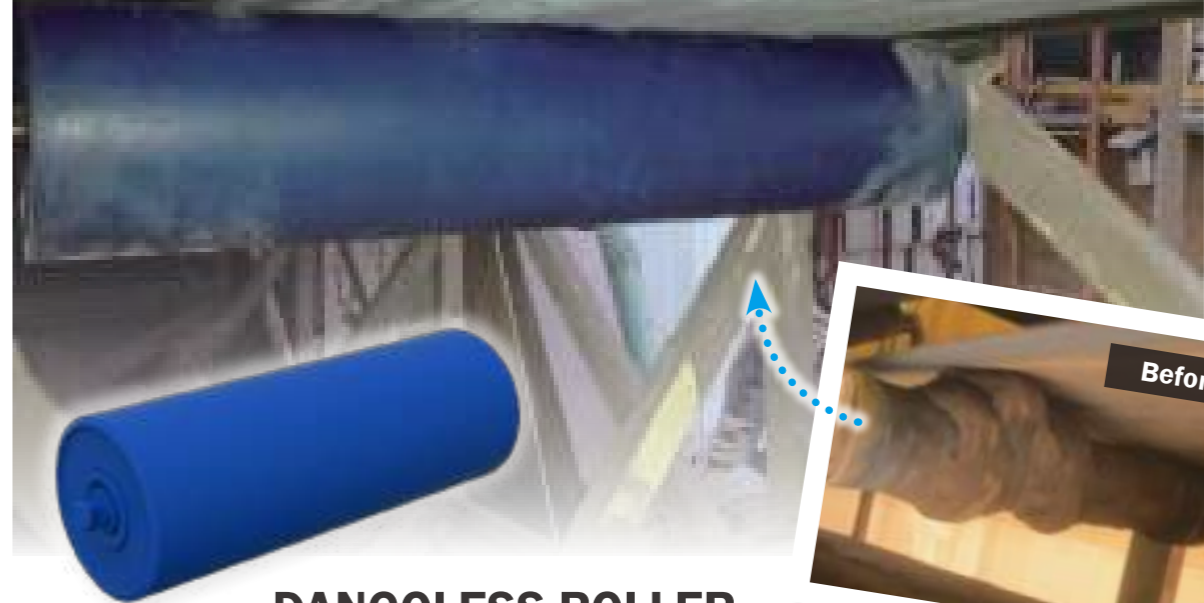


Sapporo Sales Office  
Takuya Oda

Adhesion Prevention Roller

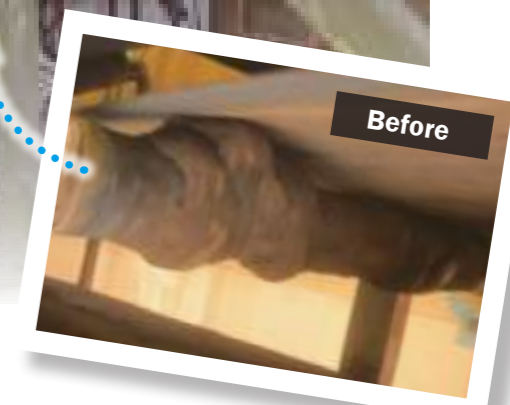
Adhesion

# Prevents Material Adhesion with the Resilient Elasticity of Soft Rubber!

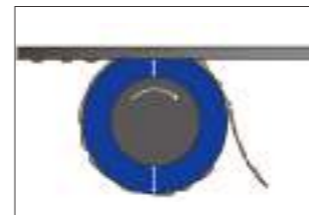


## DANGOLESS ROLLER (NON STICK ROLLER)

Utility Model No. 3211252



Scan to watch the video



### Prevents Material Adhesion

Due to the high rebound elasticity of Smart Rubber, initial adhesion layers are less likely to form. Even if adhesion occurs, the roller's rotation and vibration help to dislodge the material.



### Excellent Wear Resistance

The roller, made with flexible Smart Rubber, adapts to abrasive materials by relieving "contact pressure," preventing premature surface wear and contributing to reduced replacement frequency.



### Water Wipe Effect at the Water Spray Area

The characteristics of vulcanized rubber contribute to effective water drainage in the spray area." (photo: the belt surface is thoroughly drained after passing through the Dango-less roller).

### Reduces Adhesion That Leads to Troubles

The HS32° (Rubber-Hardness shore) soft rubber (Smart Rubber) roller, with high rebound elasticity and wear resistance, prevents adhesion of wet or high-viscosity materials, minimizes belt mistracking caused by adhesion, and helps prevent freezing in winter.



## DANGOLESS PULLEY (NON STICK PULLEY)

Utility Model No. 3211252

By lining the snub pulley with DANGOLESS rubber, cake transfer (adhesion) to the pulley surface is prevented, reducing belt mistracking, misalignment, and other related issues.

# Promotes Intentional Spillage with Triple Roller Unit



The upper pressing roller features a "DANGOLESS ROLLER(P.25)" with soft rubber vulcanization, effectively preventing the adhesion of high-viscosity materials to the rollers.



## Powerful Dual Spiral

The dual spiral return rollers at the bottom forcibly scrape off deposits on the belt surface, promoting spillage.



## Pressing Rollers Enhance Effectiveness

The pressing rollers correct the curling (troughing) of the belt and enhance the scraping effect. The adjustment feature allows for easy control of the pressing force.

Kitakyushu Sales Office  
Shotetsu Yamashita



For high-viscosity materials, utilizing the two lower spiral rollers as 'DANGOLESS ROLLER (P.25)' helps prevent roller buildup, while maintaining the same effective scraping performance.

Scan to watch the video



## SCRAPING UNIT

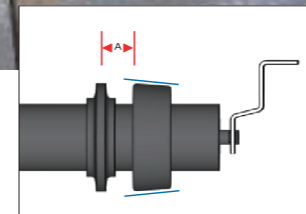
This product is a three-unit system consisting of one pressing roller and two lower spiral rollers, which forcibly scrape off material adhesions from the belt and promote spillage removal.

# Reduced Belt Contact for Less Spillage



## Over 90% Spillage Reduction!

In practical tests, it demonstrated a reduction of over 90% compared to steel pipe rollers (according to our research).



## Belt Riding and Drop Prevention

The tapered shape at both ends aligns with the belt's troughing, preventing the belt from riding up. The short spacing in the A section (shown above) also prevents the belt from falling off.



## Load-Resistant 'Baked' Rings

Our rubber rings are 'baked' to firmly integrate with the rollers. This ensures they remain securely attached even when subjected to thrust loads during belt waviness, preventing them from detaching easily.

Scan to watch the video



## FALL PREVENTION RETURN ROLLER

This roller has the effect of baking multiple special rubber rings on the surface to reduce the area of contact with the belt to minimize the amount of spillage. The tapered shape at both ends also has the effect of returning the belt to the center.

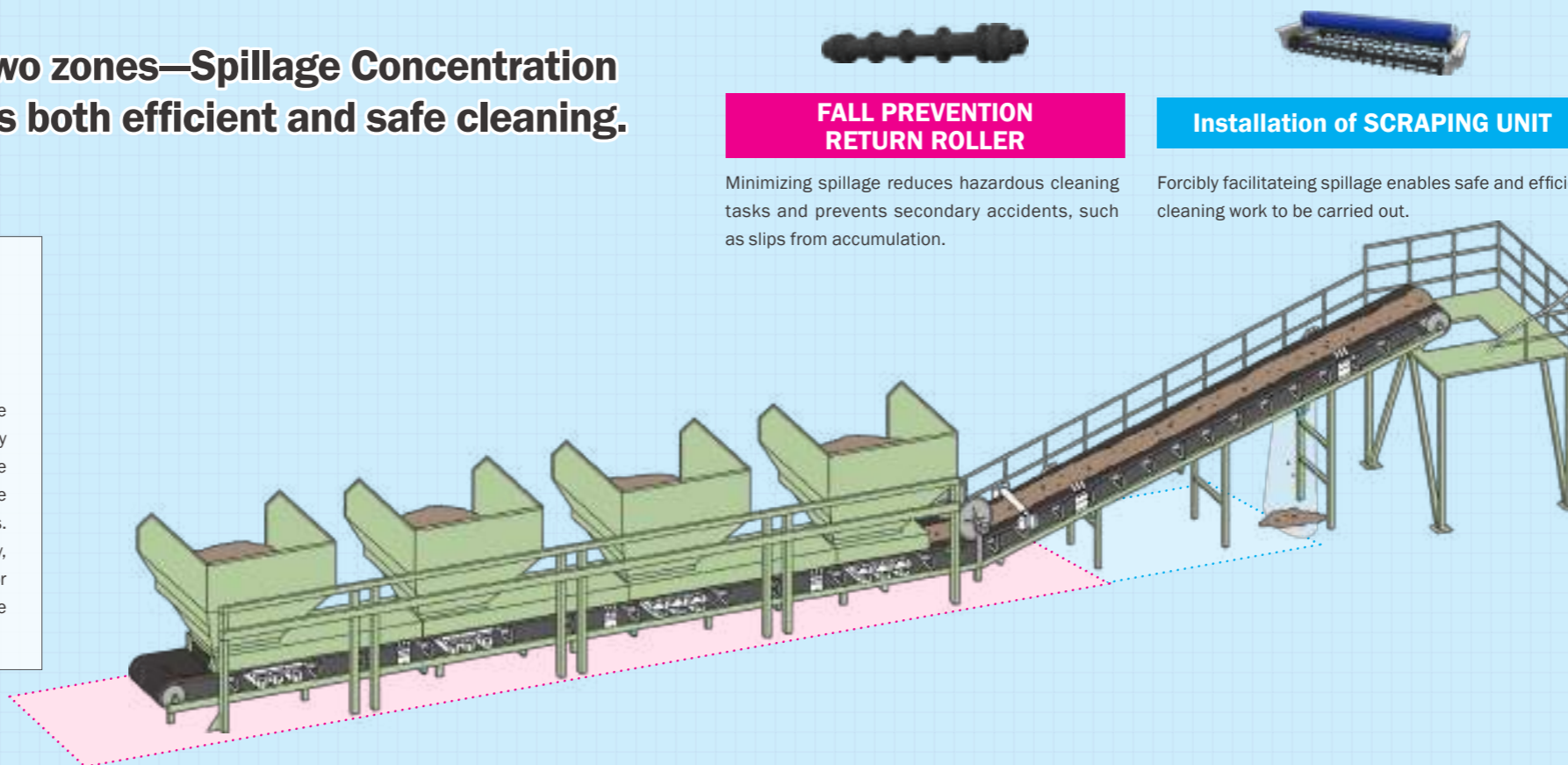
JRC Recommended spillage measures

## Dividing the area into two zones—Spillage Concentration and Reduction—ensures both efficient and safe cleaning.

Avoid cleaning in hazardous locations

### Benefits of Spillage Management: Defining Conveyor Area Zones

Within conveyor systems, areas can be classified as either "safe and easy-to-maintain" or "hazardous and difficult-to-maintain." By designating the "safe and easy-to-maintain" areas as "Spillage (Concentration) Zone" and the "hazardous areas" as "Spillage Reduction Zone," you can better control spillage generation locations. This leads to safer and more efficient cleaning operations. Additionally, this approach offers numerous benefits, including enhanced conveyor durability, increased productivity, and the ability to allocate saved time to other maintenance tasks.



### FALL PREVENTION RETURN ROLLER

Minimizing spillage reduces hazardous cleaning tasks and prevents secondary accidents, such as slips from accumulation.

### Installation of SCRAPING UNIT

Forcibly facilitating spillage enables safe and efficient cleaning work to be carried out.

### spillage reduction zone

- Areas that are dangerous if cleaning is done, such as in confined spaces
- Rooftops, passages, and other areas where you want to prevent ore from falling



### spillage (concentration) zone

Area where there is enough space around the unit for safe cleaning.



# Ensuring Safety in High-Risk Conveyor Belt Environments

Pinching & Entanglement Accidents

(Photo) Work is carried out with due consideration for safety.

Rollers Falling Off

Precautionary Measures Before an Unexpected Accident

# Safety Solutions

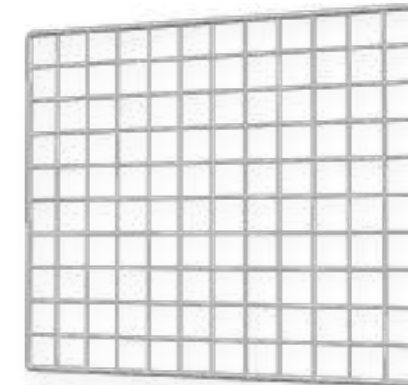
Conveyor Fires

## Effective Solutions to Prevent the Most Common Conveyor Belt Accidents: Pinching & Entanglement

Safety Solutions

Pinching & Entanglement Accidents

### Entanglement Prevention & Easy Fence Detachment for Better Maintenance

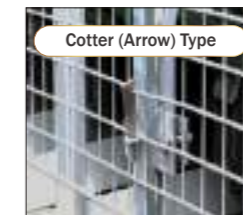


Scan to watch the video



#### SAFETY FENCE

Two installation types: Carrier stand or conveyor frame. The ideal solution will be recommended to suit your requirements.



#### Superior Structural Strength

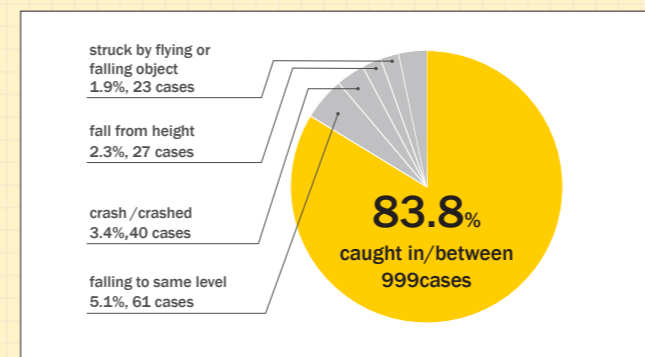
The 50mm square galvanized mesh is surrounded by  $\phi 8$  rings around a  $\phi 4$  fence, providing the strength necessary to withstand the harsh installation environments of conveyor systems.

#### Easy Detachment

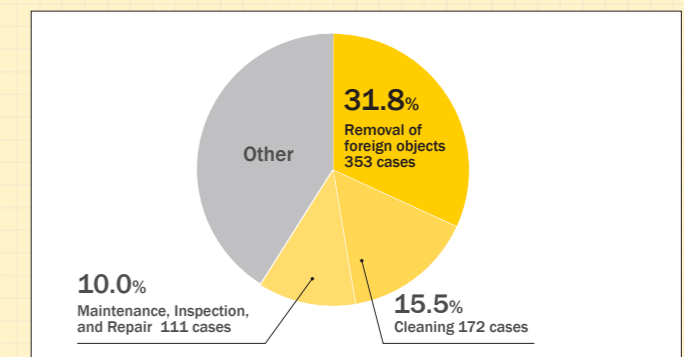
For ease of maintenance, the "Cotter Pin (Arrow)" system is used for detachment. Additionally, the "Kamikomi" system allows for even easier detachment without the need for tools or a hammer.

### High Risk of Pinching & Entanglement Accidents!

#### Annual Breakdown of Conveyor Accidents



#### Types of Tasks Involved in Occupational Accidents

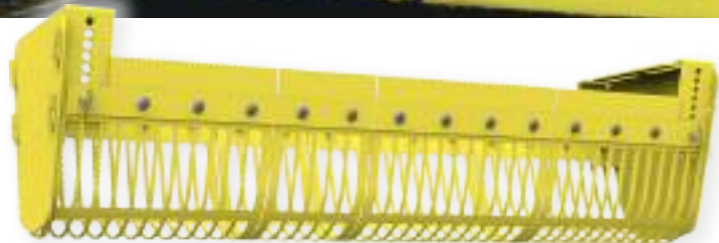


Among the 1,192 occupational accidents involving conveyors that resulted in 4 or more days of work stoppage in 2006, over 80% were due to 'entanglement or being caught.' Therefore, it is particularly important to focus on establishing preventive measures targeting these types of accidents."

Accidents related to 'removal of foreign objects,' 'cleaning,' and 'maintenance, inspection, and repairs' account for over half of all cases. Therefore, reducing the need for these tasks is a key challenge.

National Institute of Occupational Safety and Health. (2012). Industrial accident analysis of conveyors (Vol. 5, No. 1, pp. 33-44) [Data extracted and edited]. National Institute of Occupational Safety and Health.

# Cover combines prevention of rollers falling off and contact accidents with ease of cleaning



### Ultra-High Molecular Weight Polyethylene Cover

This cover is made from ultra-high molecular weight polyethylene, offering both high durability and lightweight properties, while effectively preventing the accumulation of transported materials. It is also strong enough to provide peace of mind in the event of a roller detachment. The cover features a lattice-like design for added sturdiness.



### Easy Cover Removal

For ease of daily maintenance, such as roller replacement and cleaning, the cover can be opened with a single pin-type stopper (no tools needed).

### Iron Safe Guard Option

#### (A guide for choosing between resin and metal versions)



### Resin Safe Guard

Primarily used for rollers installed in low areas or places within reach of human hands. To prevent hands from getting caught in the rollers, the mesh has a fine lattice structure. While finer mesh prevents hands from entering, it can cause transported materials to accumulate, making cleaning of accumulated materials easier. For this reason, the cover is designed to be easily opened with a single pin, allowing for easy access for cleaning.



### Iron Safe Guard

Mainly used for rollers in high locations or places where people pass under the conveyor. The metal safeguard is designed to prevent detachment in the event of roller damage. It features a robust structure made of SS round steel. In high places, the risk of hands getting caught is minimal. However, frequent cleaning of accumulated materials inside the guard is challenging, so the mesh is designed with larger openings to reduce accumulation.



### SAFE GUARD

The guard prevents accidents such as return roller falling off or getting caught in/between, and serves to raise awareness for safety. This SAFE GUARD (cover) is our recommended solution.

Scan to watch the video



## Solutions to Conveyor Fires

# Preventing Large-Scale Disasters and Significant Damage



## FRAME RETARDANT HEAVY OIL RESISTANCE RUBBER ROLLER

### Fire-resistant & self-extinguishing to prepare for emergency Fire

#### Excellent Fire-Resistance Performance

The roller features outstanding fire resistance, meeting JIS K 6324 Class 3 standards. Its excellent fire-resistant and self-extinguishing properties help prevent the spread of fire in the event of a conveyor fire.

#### High Oil Resistance & Wear Resistance

The roller contributes to an extended service life in lines handling items containing oil.

Contributing to Fire Safety at Industrial Sites!

#### Power Plants and Steel Mills

Conveyors handling coal, which pose a fire risk.

#### Sewage and Waste Treatment Facilities

Conveyors transporting oil-laden or combustible materials.

## Prevents Spark Generation from Foreign Object jamming!



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### NS GUARD

#### Enhanced Dust and Water Resistance with Superior Sealing Performance

The guard enhances dust and water resistance by adding it to the labyrinth seal of the JRC standard roller, further improving its sealing performance.

#### Prevents Spark Generation from Foreign Object jamming

The guard completely prevents spark generation caused by foreign objects jamming on its surface. Even if an object becomes jammed, the NS Guard does not rotate, ensuring that no sparks are produced.

#### Longer Roller Life with High Corrosion Resistance & Sacrificial Protection

The guard completely prevents spark generation caused by foreign object jamming on its surface. Even if an object becomes jammed, the NS guard will not rotate, ensuring that no sparks are generated.



## All-Steel Design for Fire Risk Reduction



### IRON FALL PREVENTION RETURN ROLLER

Scan to watch the video



The roller maintains the performance of the "Drop Prevention Return Roller (P.27)" while reproducing the rubber ring with an all-metal design, making it suitable for use in conveyors requiring flame resistance.



## Solution to Prevent Material Accumulation Leading to Roller Malfunction and Premature Damage

### Advanced Fall-Prevention Fence with Accumulation Prevention



#### Adhesion Removal by Wire Scraping

The fence features 'scraping wire,' which removes adhered materials from the roller surface and prevents them from growing beyond a certain size.



#### Temporary Roller Placement Inside the Fence

In addition to preventing roller detachment, the fence allows the roller to be temporarily placed inside during replacement, making it safer during the exchange of heavy return rollers at heights. (Side Access for Roller Removal)

Scan to watch the video



Replacement and Installation with Existing Return Idlers Possible!

### FALL&ACCUMULATION PREVENTION FENCE RETURN ROLLER

Recommended for sites struggling with material adhesion and accumulation within the fence, as well as preventing return roller falling off.

#### The Cause of Accumulation: The Difference in Size of Clumps

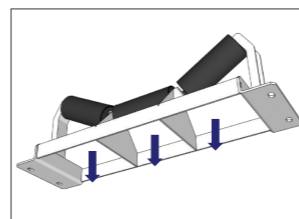


Before  
Solid materials would detach due to vibrations or their own weight, falling in clumps. Larger clumps tended to accumulate on top of the fence.



After  
Before clumps could grow large, the wire would scrape them off, allowing them to slip through the gaps in the fence, making it more difficult for accumulation to occur inside the fence.

## Frame Structure that Reduces Material Accumulation



#### Slip-Through Structure

The idler utilizes a hollowed-out frame design, allowing fallen materials to pass through its gaps, making it difficult for them to accumulate.

Scan to watch the video



### ACCUMULATION PREVENTION CARRIER IDLER

Designed to prevent material accumulation, reducing build-up on the frame, extending roller lifespan, and lowering cleaning needs.

#### Reducing Material Accumulation, Extending Roller Life



Before  
Accumulation on the stand frame caused issues like roller malfunction and poor rotation.



After  
With no accumulation, roller damage was prevented, leading to longer lifespan and reduced replacement frequency.



By preventing early roller damage, belt damage caused by broken rollers is also reduced.



### STUB ROLLER COVER

## Prevents Roller Rotation Issues of Short Rollers in Steep Conveyor Angles

Designed to be attached to the side (shaft side) of short rollers used in steep conveyor systems, preventing rotation issues and early damage caused by material accumulation.

Install like this place!



#### Solution to Rotation Issues of Short Rollers Caused by Material Accumulation



Before  
In the lower-angle section of the steep conveyor, frequent rotation failures occurred due to material accumulation on the short rollers.



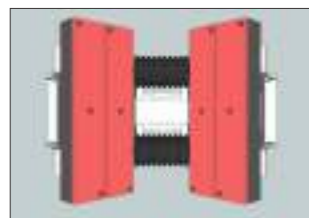
After  
Rotation failures were completely eliminated.

# Eliminates Gaps with Skirt Rubber and Significantly Reduces Spillage



## IMPACT SLIDE

The product reduces material spillage and blow-off by replacing the traditional trough rollers with low-friction slide bars, eliminating the gap between the belt's sag and the skirt rubber.



### Slide Bars on Both Sides

The left and right slide bars, which excel in impact resistance and wear resistance, are available in 500mm and 750mm widths. They are easy to align with the shape of the skirt rubber and are designed with maintenance in mind.



### Impact Rollers at the Center

The 'Impact Rollers' in the center roller section minimize the increase in belt running resistance, ensuring that unnecessary strain is not placed on the system.



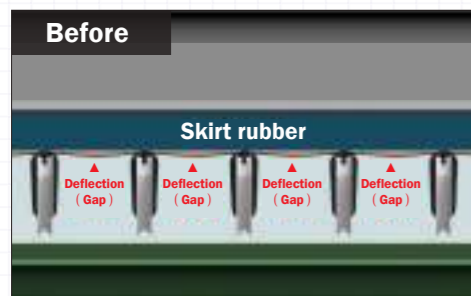
### Easy Replacement with a Drawer Structure

The slide bars and center roller use a 'drawer structure' for simple replacement when worn. The stand is available in two-part or three-part versions.

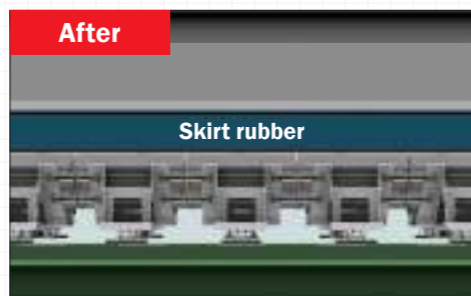
Scan to watch the video



## Sealing 'Spillage' from Gaps with Skirt Rubber



The belt would sag, creating a gap with the skirt rubber, leading to (bulk) material spillage.



The slide bars eliminate the gap with the skirt rubber, reducing spillage.

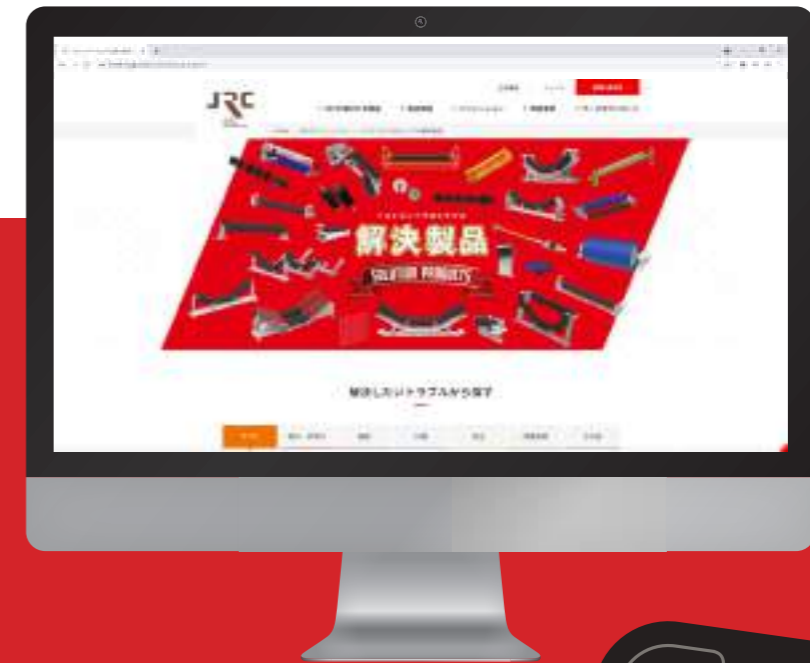
### Compatible with Existing Installations



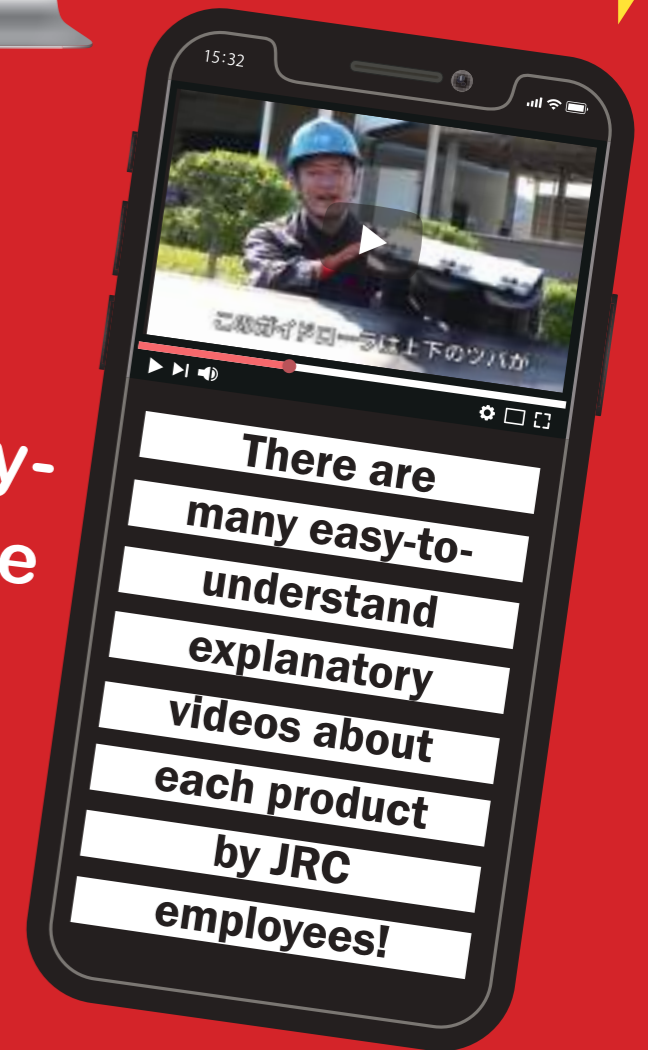
Mounting holes added to the frame allow replacement of existing idlers.



# A new "Resolving Products" special page has been created on the JRC official site!



## Detailed videos and flyers of solved products can be viewed anytime and anywhere from your PC or smartphone!



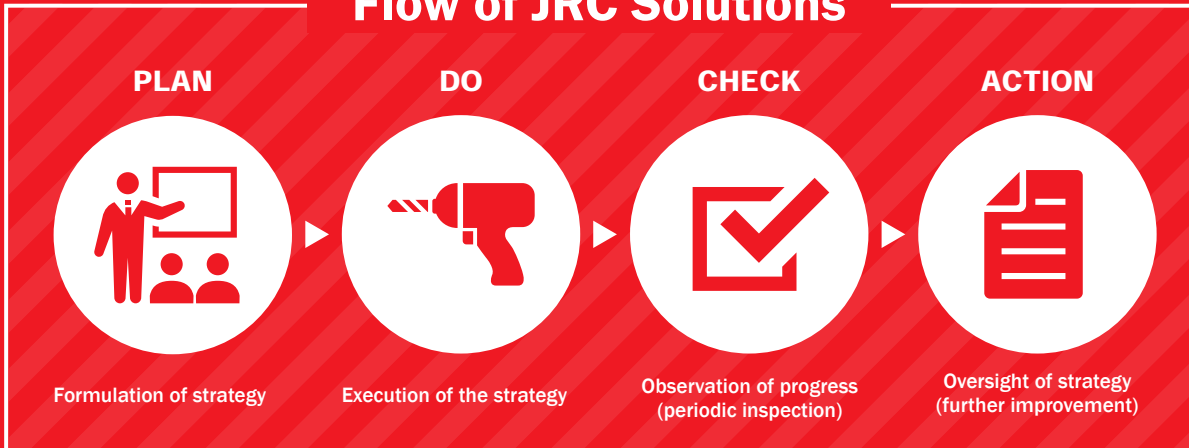
Read with Smartphone  
Web [www.Searchjrcnet.com](http://www.Searchjrcnet.com)  
[www.jrcnet.co.jp/solution/solution\\_products/](http://www.jrcnet.co.jp/solution/solution_products/)

Please leave it to us for any issue with the belt conveyor.

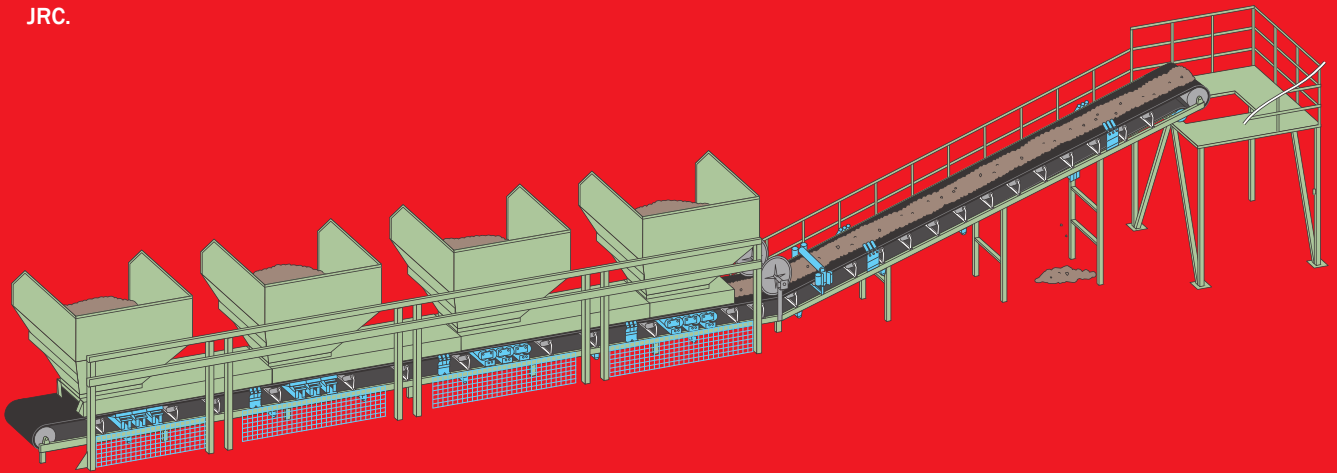
# Propose optimal solutions for your site



## Flow of JRC Solutions



Troubles in belt conveyors affect each other like gears, so individual measures can induce other problems. Taking measures by comprehensively recognizing visible phenomena will lead to improved conveyor productivity, safe operation, and the creation of cost benefits. All troubles can be prevented beforehand. Please feel free to consult with JRC.



## JRC CO.,LTD.

Head Office / CAMCO Nishihonmachi Building 5F ,2-1-1 Awaza, Nishiku-ku, Osaka 550-0011, Japan

You can find more information about our products and services here.

● **JRC Conveyor Products website**  
<https://www.jrcnet.co.jp/products/>



● **JRC Contact page (English)**  
<https://www.jrcnet.co.jp/english/contact>



● The content of this booklet is as of September 2024. The contents of this manual are subject to change without notice for various reasons.

● Please note beforehand that photos and illustrations posted are images. The color may differ slightly from the actual product.

