

Metso

Bulk Materials Handling services

Apron feeder upgrades



Apron feeder upgrades

Significantly improve reliability, maintenance, efficiency and safety with our range of customized retrofit solutions



Existing apron feeders may come with many limitations including reliability and performance issues, extensive repairs, difficult maintenance requirements, and poor parts availability due to obsolescence. There is a higher risk of unexpected failures impacting the throughput due to unplanned downtime.

Ask about our full range of retrofit options and custom apron feeder solutions.

The Metso solution

Metso can help you understand which parts on your apron feeders are worn, prone to failure, or need immediate attention. We can also recommend upgrade, retrofit and refurbishment options to get your machine back up and running. These may include:

- Main drive and head shaft
- Tail wheel & take-up
- Manganese pans
- Modular carrying and return rollers

Our experts can also perform a material flow study for your hopper/bin to optimize the machine's performance.

Why partner with Metso

As an OEM, Metso has been designing equipment, parts, and retrofit solutions for apron feeders for more than a century.

We've combined the best features from our industry-leading legacy brands with modern technology to bring innovative and reliable solutions. With the use of advanced engineering tools, we ensure accurate and superior manufacturing that meets Metso's industry-leading standards and quality requirements.

Brands we support

- Metso Outotec
- NICO
- Svedala
- Stephens-Adamson
- Faco
- Allis-Boliden
- Allis-Chalmers
- McNally-Wellman

*Also available for select non-Metso equipment

More for your apron feeder

Our experts can support you with inspections for key components, parts installation and repairs, as well as life cycle services including long-term service agreements.

Benefits

- Maximize equipment performance with a cost-effective solution
- Gain new functionality with modern and state-of-the-art technology
- Highest equipment reliability and longevity
- Improve ease of maintenance
- Eliminate health and safety risks

Apron feeder upgrades

Main drive and head shaft assembly

Your existing assets may have the potential to take on significant improvements. Whether you want to improve safety, maintenance efficiency or equipment reliability, we have you covered. Our team of experts can support you throughout, from identifying the available upgrade options up to implementation.

Your challenge

Generally, apron feeders are a high-torque low-speed application, and many older models use multiple reducers, chain and sprocket sets, open gearing, countershafts, etc., to achieve the necessary mechanical advantage. Spare parts inventory requirements are high and older parts can often become obsolete and difficult to source.

The Metso solution

Drive system and head shaft assembly upgrades are a key upgrade opportunity for existing apron feeder models. Metso's current drive design minimizes the number of moving parts by utilizing a single, compact multi-stage planetary reducer to drive the head shaft. With spare parts readily available, it is no longer necessary to rely on makeshift solutions to replace obsolete parts. The new design does not require mounting to the floor steel, since the reducer is mounted directly to the head shaft by either a spline or shrink disc connection and torque arm connected to the feeder frame.

As part of the upgrade, the head shaft assembly (including the bearings) will also be upgraded. A splined shaft connection provides the highest torque carrying capacity and facilitates easier maintenance. The Metso designed, inclined split type bearing housings have increased load carrying capability while taconite seals deliver superior sealing performance. The sprocket segments are reversible and designed for quick installation and removal.

Expected results

- Consistent throughput and improved reliability
- Ease of maintenance
- Reduced maintenance cost
- Minimized spare parts inventory

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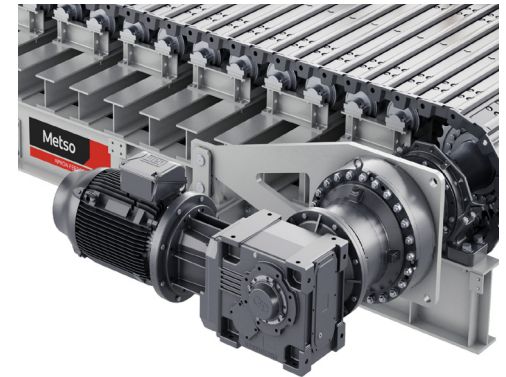
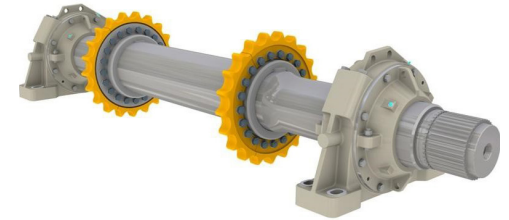
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Life Cycle Services: Custom, progressive, service packages focusing on parts supply and inventory, maintenance, process optimization, and more.

Discover our service portfolio:

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Apron feeder upgrades

Shaftless tail wheel assembly

Your existing assets may have the potential to take on significant improvements. Whether you want to improve safety, maintenance efficiency or equipment reliability, we have you covered. Our team of experts can support you throughout, from identifying the available upgrade options up to implementation.

Your challenge

Many existing feeders have tail wheel & take-up arrangements that are challenging to service, need regular lubrication and often involve the manipulation of large and cumbersome shafts during regular maintenance and change-outs.

The Metso solution

Metso can provide an upgrade to the existing tail wheel assembly that does not require a rotating shaft and sprockets or custom wheels. It also eliminates outboard pillow block bearing assemblies. The new 'shaftless' modular design features a tail wheel that carries the bottom of the chain links ensuring there is no contact between the bushing of the chain and tail wheel. The tail wheel assembly does not require regular lubrication since the wheel is 'sealed-for-life' lubricated. A hydraulic cylinder and pump are included for easy take-up adjustment.

Expected results

- Better service life and reliability
- Lower maintenance cost
- Simpler operation
- No lubrication required
- Reduced spare parts inventory

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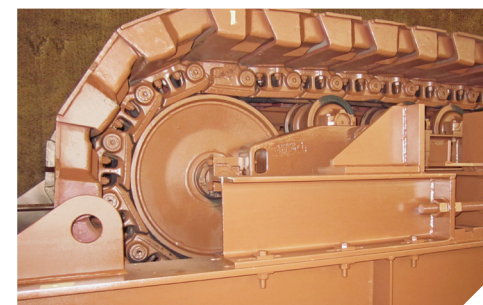
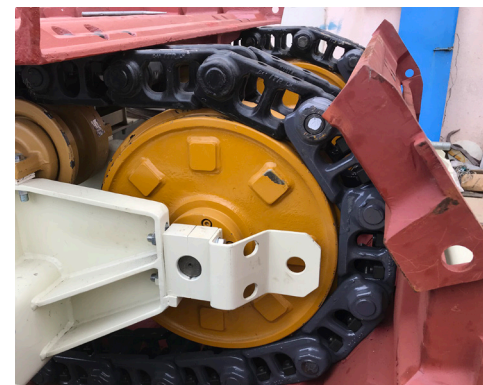
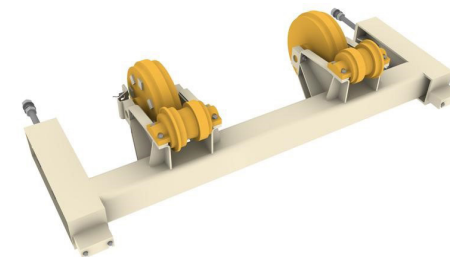
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Apron feeder upgrades

Manganese pans

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Your challenge

Apron feeder pans often experience severe impact and wear during day-to-day operation, becoming thin or even flexing and breaking. This can cause spillage of fines, lengthy downtime, and unsafe operating and maintenance conditions.

The Metso solution

Metso can upgrade existing pans to cast manganese pans, which are 'work hardened' to achieve a hardness up to 600 BHN, suitable for high-impact loading and extremely abrasive operations. The pans are cast from high-quality austenitic manganese steel with stiffened underside for higher strength and maximum impact resistance. The overlapping design and wings almost eliminate spillage and overflow of material. Optional wear indicators are also available to help monitor the real-time condition of the pans.

Lifting holes and eyes are integrated into the pan design for safer and easier handling. Longitudinal central rib(s) provides a close tolerance gap with respect to the rail under the pan deck assembly, thereby preventing excessive flexing. We strongly recommend to adjust or replace the impact rail(s) when changing the pans to ensure appropriate working clearance between the pans and the rail(s).

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Expected results

- Longer life and enhanced reliability
- Reduced maintenance and downtime
- Reduced friction between the pans resulting in lower energy consumption
- Reduced spillage
- Safer and easier handling

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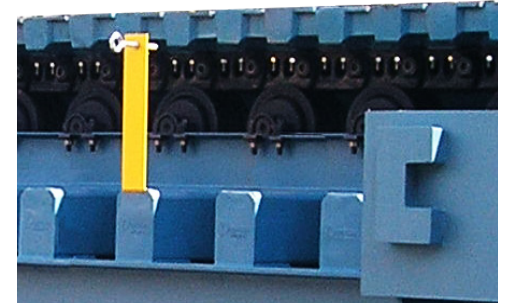
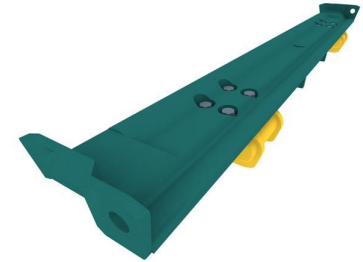
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Apron feeder upgrades

Carrying rollers

Your existing assets may have the potential to take on significant improvements. Whether you want to improve safety, maintenance efficiency or equipment reliability, we have you covered. Our team of experts can support you throughout, from identifying the available upgrade options up to implementation.

Your challenge

When servicing the carrying rollers of existing apron feeders, replacing the complete assembly can be a challenge. Older designs commonly use a single channel support with single flanged rollers bolted on both the inner and outer side of the feeder which poses accessibility and handling challenges.

The Metso solution

Metso's upgrade features heat-treated, forged alloy steel carrying rollers that are hardened for long rim-wear life. The half flange carrying rollers (inner flange removed for ease of maintenance) are lubricated and sealed for life. They have a modular design with clips to hold down the inner structure eliminating hard-to-access bolts. The rollers can be easily accessed without having to remove material from the feeder or lift the chain from the carrying rollers. These carrying rollers also have high load carrying capacity for trouble-free service.

Expected results

- Better service life and reliability
- Reduced downtime
- Easier maintenance with reduced cost
- No lubrication required
- Minimum spare parts inventory

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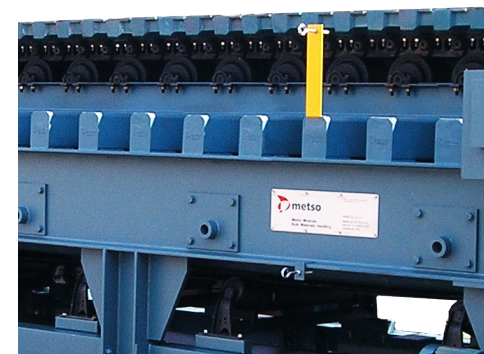
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Apron feeder upgrades

Return rollers

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Your challenge

When servicing the return rollers of existing apron feeders, replacing the complete assembly can be a challenge. Existing designs may require regular lubrication of bearing assemblies and cumbersome shafts making regular maintenance and change-outs more difficult.

The Metso solution

Metso's return roller assemblies features heat-treated, forged alloy steel return rollers that are hardened for long rim-wear. The return rollers have a modular structure and are lubricated and sealed for life. They can easily be upgraded to a hinged design that significantly improves safety and maintenance accessibility. The upgrade is available for all Metso, legacy and third-party apron feeders

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- Easier maintenance with reduced cost
- No lubrication required
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