



Your partner in the
***PULP AND PAPER
INDUSTRY***

FLEXCO

FLEXCO IS CONVEYING CONTROL IN PULP AND PAPER



MEET FLEXCO

For over 110 years, Flexco has focused on creating belt conveyor solutions that meet ever-changing customer needs. Flexco is committed to applying our superior knowledge and equipment to make your belt conveyor operation in the pulp and paper industry as productive as possible. Today, we help pulp and paper customers achieve the most efficient operations by providing products and services to minimize downtime and keep belt conveyor lines running smoothly.

Flexco understands the pulp and paper industry, so we are confident in our ability to partner with you in your productivity goals. We know that belt conveyor performance is key to your operation. Our personal approach ensures that your facilities get innovative solutions perfectly suited to your needs. In addition, the people responsible for belt uptime will receive the training and assistance that enables them to take maintenance into their own hands, and to a whole new level.

Our world-class customer support system focuses on your needs first to help you achieve optimal belt conveyor performance, so you can reach your production goals. This approach ensures that we deliver what we promise – and you get what you need.

TRENDS IN THE PULP AND PAPER INDUSTRY



DOWNTIME IS COSTLY

Downtime cost per hour can be as high as **\$80,000**



NEW LEADER

China is now the **world's leading paper producer**, increasing its output by 57 million tons from 2004-2015

GLOBAL REACH

Flexco has representation in over 150 countries, with local inventory and personnel dedicated to assisting pulp and paper manufacturers wherever you may be. We realize pulp and paper manufacturing supports many of the fastest growing industries in the world. To serve increasing demand, we have feet on the ground in strategic locations where we can help the most.

Along with global representatives and specially trained Partners Plus distributors, Flexco University brings on-site, online and in-class training to pulp and paper operations throughout the world. It is all part of our commitment to be your most valuable partner on the job, wherever that job is being done.

A PARTNER IN THE PULP AND PAPER INDUSTRY

Over the years, we've cultivated deep relationships with key partners in the pulp and paper industry, gaining industry expertise and earning a reputation as a trusted partner in belt conveyor productivity. We've spent countless hours working alongside pulp and paper customers to understand the nuances of your everyday challenges, and we've used our hard-won knowledge to design a comprehensive lineup of belt conveyor products to address your pain points throughout the pulp and paper manufacturing process.

To serve an industry with increasing demand, the drive toward innovation has to be our focus. The pulp and paper industry is growing, fueled by the need for packaging resulting from booming e-commerce activities globally, and rising demand for hygiene products. With this demand, many conveyor systems are operating at higher capacities than they were designed for, and downtime is not an option. By constantly searching for new ways to make belt conveying in pulp and paper more efficient, we aim to partner with you to enter into a new era of productivity.

Fires and explosions are serious threats to pulp and paper mills. Sawdust accumulating around the plant and inside the building can ignite, and dust that goes airborne can even explode under the right conditions. Flexco is here to help work proactively to try to prevent potentially catastrophic problems along your belt lines.



POTENTIAL FOR INCREASED DEMAND

E-commerce is expected to grow **15% per year in China and 10% in India, Thailand and Indonesia** between now and 2022 – increasing the demand for packaging.



CONSUMING MORE

Worldwide paper consumption has risen by **400% in the last 40 years**

BELT CONVEYOR SOLUTIONS YOU CAN COUNT ON

SKIRTING SYSTEMS



THE PROBLEM: Fugitive material buildup creates fire hazards. Stockpiles of wood material will always be present, but fugitive material buildup near heat sources can be controlled with proper containment systems and housekeeping procedures.

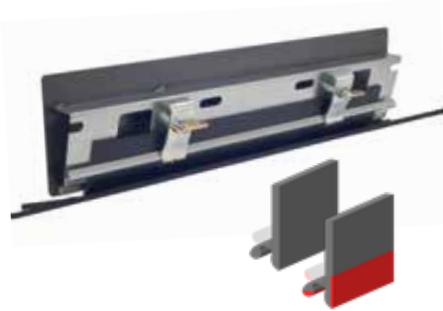


THE SOLUTION



ENCLOSED SKIRT SYSTEM

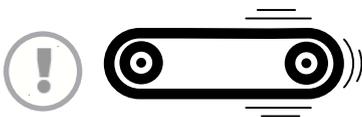
Where full containment is required, use Flexco Enclosed Skirt Systems. These are highly effective at containing dust in areas throughout the woodyard where transfers agitate material. Internal dust curtains control air flow throughout the system to keep dust levels low.



FLEX-SEAL™ WITH LRS15 SKIRT RUBBER

These skirting systems are designed for quick adjustments, which are crucial, especially on belts feeding the digester or boiler as downtime on these belts is costly. The locking wedges do not require wrenches for adjustments. A mallet and a few minutes are all that is needed to replace or adjust skirt rubber. LRS15 skirt rubber is compatible with these systems and provides a dual seal which helps contain fine dust in the load zone. Faster replacements and less cleanup mean maintenance efforts can be focused elsewhere.

PULLEY LAGGING



THE PROBLEM: With the high moisture content, pulleys with worn or smooth rubber lagging can't grip the belt. This can lead to pulleys slipping and heat buildup. Fires have been started by pulleys spinning on the belt, unable to gain traction. With fuel sources all around the woodyard, this can be catastrophic.



THE SOLUTION



FLEX-LAG® MEDIUM CERAMIC LAGGING

Provides traction in both wet and dry conditions, both of which are found on belts handling chips and bark. This lagging features 39% ceramic tile coverage that grips the belt, while the horizontal grooves trap and deflect water.

IMPACT SOLUTIONS



THE PROBLEM: Although chips and bark transfers are generally low impact, load zones still cause headaches for pulp and paper mills. Material escaping in the impact area is one of the major issues mills face in the woodyard. Incorrectly specified impact solutions can allow excess material spillage, resulting in belt damage, additional manpower for clean-up, and increased risk of fire hazard.



THE SOLUTION



FLEXCO SLIDER BEDS WITH IMPACT ROLLS

These beds offer support in lower-impact applications while providing a solid surface for skirting material to seal against. The impact rolls can handle impact energy of up to 200 lb-ft. while reducing drag on the belt. Plus, the long-lasting UHMW outer bars support the belt for a continuous seal against skirting material.

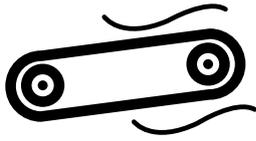


FLEXCO IMPACT BEDS

These beds offer support in medium-duty applications where impact is up to 750 lb-ft., such as belts carrying bark where small sections of logs or branches are occasionally present. The Flexco Impact Beds protect the belt by absorbing the impact of falling material – a rugged solution at an affordable price.



BELT TRACKERS



THE PROBLEM: *Idlers that have seized, belt splices that are not square, bent conveyor structure, and material buildup all cause belts to mistrack. This leads to belt damage, off-center loading, and spillage in the load zone and along the length of the conveyor.*



THE SOLUTION



PTEZ™ BELT TRAINERS

Ideal for use in areas where there is buildup on structures and components or where belts have worn or damaged edges. The PTEZ™ is also great for cleated belts as it can be mounted on the smooth side of the belt. The PTEZ™ is designed with few exposed components so buildup is minimized, and uses a patented “pivot and tilt” feature to immediately compensate for belt misalignment without the use of sensor or edge rollers.

MECHANICAL BELT FASTENERS



THE PROBLEM: *Downtime can cost a pulp and paper plant as much as \$80,000 an hour, so operators need to repair or replace belts safely and efficiently to get belts up and running as quickly as possible.*



THE SOLUTION



FLEXCO® RIVET HINGED FASTENING SYSTEM

The Flexco® SR™ Rivet Hinged Fastening System is ideal for use on rubber-plied belting and for worn belts unfit for vulcanized splices, delivering performance and long life.



ANKER® WIRE HOOK AND ALLIGATOR® STAPLE FASTENING SYSTEMS

Use on lightweight belts, which may be found in pulp bale and roll handling, and on broke belts.

BELT CLEANERS



THE PROBLEM: *The moisture content in chips and bark can be as high as 40-50 percent, causing fines to stick to the belt. Carryback material then builds up on idlers and eventually they seize up. Material may also stick to the belt and drop in areas where buildup and airborne dust are explosion risks, like inside buildings where chips are going to the digester or bark is going to the boiler.*



THE SOLUTION



EZP1 PRECLEANER AND Y-TYPE™ SECONDARY CLEANER

The EZP1 Precleaner and Y-Type™ secondary cleaner are great for flat belts all around the woodyard, including chip belts and bark belts. With long-wearing urethane and visual tension checks, minimal cleaner maintenance time is required. Additionally, there are stainless steel options for belts conveying material to digesters, as hydrogen sulfide is present.

BELT CLEANERS (cont.)



MSP STANDARD MINE-DUTY/MMP MEDIUM MINE-DUTY PRECLEANERS

These precleaners are ideal for the chip belts around the woodyard that are wider and faster as they offer a step up in strength. It is especially important to have belts conveying chips to screening and the digester up and operating with no unplanned downtime for cleaning. MSP and MMP precleaners help reduce material carryback and cleanup time, and maintenance is fast and easy.

ADDITIONAL BLADE OPTIONS

EZP1 or MSP with Purple Blade: For general use on belts carrying chips and bark around the woodyard.

Stainless Steel EZP1 or MSP with High-Temp Yellow/Red Blade: Ideal for belts carrying chips to the digester in high temperature applications and for belts carrying lime to the kiln.

Stainless Steel MSP with Chemical Resistant White Blade: A great option for belts carrying chips to the digester where temperature is not an issue.

R-TYPE® SECONDARY CLEANER

An excellent choice for single-direction or reversing belts, the R-Type® secondary cleaner features carbide blades which offer excellent wear life, cushions that minimize material buildup and a tensioner that can be adjusted quickly. Combined, this cleaner efficiently removes wood dust and debris from the belt with minimum maintenance required.

MOTORIZED BRUSH CLEANER

Cleated belts are often necessary for conveying material to stockpiles, silos, and screening, but they present their own unique cleaning challenges. The cleats have more surface area and crevices where material can become trapped. The Motorized Brush Cleaner spins the opposite direction of belt travel to dislodge material from the belt and cleats. This is also effective on flat belts to brush fine material off the belt after a precleaner gets the large material off the belt.

U-TYPE® SECONDARY CLEANER

For belts around the lime kiln and in areas where material has high moisture content, the U-Type® is an excellent choice. The lime belt is often referred to as the "mud belt" due to the consistency of the lime. With carbide tips embedded in a rubber blade, the U-Type® removes stubborn carryback and water from the belt.

V-PLOW

On most belts in the woodyard there is a chance for material to move through the tail pulley, damaging both the pulley and the belt. To avoid these problems, the low maintenance Flexco V-Plow discharges materials, protecting the tail pulley and the belt.



BELT MAINTENANCE



THE PROBLEM: Maintaining belt conveyor systems is the key to efficiency, but many operators have very limited time to spend on maintenance. They need easy-to-use belt maintenance tools that reduce repair time while ensuring worker safety.



THE SOLUTION



FLEX-LIFTER™ BELT LIFTER

Quickly and safely lift belts out of the way in order to perform belt maintenance. This portable tool lets you efficiently set up a splicing station or replace worn idlers.



FAR-PUL® HD® BELT CLAMPS

Patented heavy-duty clamps are specially designed to properly secure a belt for safe conveyor maintenance and splice installation or repair.



FLEXCO BELT CUTTERS

Squared belts and belts with clean cut edges are essential to long-lasting splices and belts that track on center. Flexco belt cutters are available in multiple sizes to accommodate various belt widths.



FSK™ BELT SKIVER

Create lower profile splices that are less susceptible to wear and tear. The FSK™ Belt Skiver has a simple, manual operation that precisely removes top covers in a single pass.



INSPECTION DOORS

These easy-to-install doors allow for inspections of enclosed structures while providing a dust-tight seal. They feature an adjustable latch and are rated to hold up in extreme temperatures.



**Global Support
Wherever You
Need It, Whenever
You Need It.**

FLEXCO DIRECT SUPPORT

Flexco has 13 locations strategically positioned around the world. Our team of sales, engineering, and service personnel is dedicated to supporting your pulp and paper operation.

PARTNERS PLUS CERTIFIED DISTRIBUTORS

Flexco distributors are present in over 150 countries. Many of these distributors have Partners Plus certification, having undergone specialized Flexco training in order to diagnose problems, recommend solutions, and share advanced knowledge to better maintain your belt conveyor over the long haul.

Flexco created the **Partners Plus Program** so distributors can provide expert-level knowledge about Flexco products, consultative support that can improve your productivity, and rapid response to service requests. Partners Plus distributors can perform conveyor assessments, offer belt conveyor troubleshooting, and provide advanced notice about Flexco product introductions specific to the pulp and paper industry. It's much like having a Flexco field representative on site.

Many are also qualified to provide Flexco University training. With locations and local inventory around the globe, Flexco Partners Plus certified distributors ensure that pulp and paper manufacturers get whatever products and support you need, when you need it.

FLEXCO

CONVEYING EDUCATION



FLEXCO UNIVERSITY

To help our clients achieve optimal belt conveyor productivity, we go beyond simply supplying the right products. We provide extensive support and training on how to use them. Through Flexco University, your team will have access to online, on-site, and in-class learning opportunities that will help them become on-site experts for your belt conveyors. These learning opportunities can be combined and customized to meet the needs of individual pulp and paper operations.

FLEXCO UNIVERSITY ONLINE

Flexco University Online provides professional training on mechanical belt fastening, belt conveyor products, belt maintenance, and transfer point solutions. Courses are available at www.flexcouniversity.com and can be accessed at any time it is convenient, day or night. Three levels of courses are available, with each course lasting 30 to 60 minutes.

100 Level Courses

- Introduce the basics of our products while addressing common issues that affect system productivity

200 Level Courses

- An in-depth review of Flexco products, their industry applications, safety features, basic installation and operation instructions

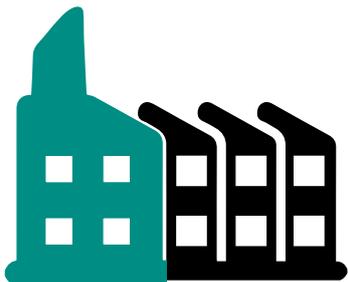
300 Level Courses

- Cover subjects such as specialty splicing and troubleshooting

Individuals can take courses at their own pace and can choose to take all courses or only the most relevant ones. Course completion certificates are available to help document site specific training requirements. Additionally, pulp and paper operations can choose to manage their own online Flexco University training groups by assigning different courses, monitoring participant progress, and more.



TRENDS IN THE PULP AND PAPER INDUSTRY



BIG INDUSTRY

The food and beverage industry is the **largest end user for the paperboard packaging market**, accounting for more than half of the global market share



HEAVY USAGE

Each American uses about **700 lbs. of paper per year**. Individuals in the rest of the world average about 125 lbs.

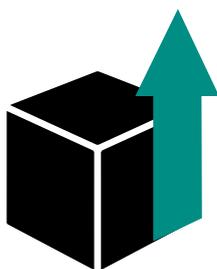


FLEXCO UNIVERSITY ON-SITE AND IN-CLASS TRAINING PROGRAMS

Flexco University on-site and in-class Training Programs combine online learning with on-site and in-class programs to achieve the optimum training solution for your employees. Blending different methods of training, resources, and settings allows your employees to be successful in the manner where they learn best. And that's smart for your operation.

Flexco representatives and Partners Plus distributors are available to come to your location for on-site training and education. Training programs can be customized based on schedules and employee knowledge, from multi-day training for new teams to hour-long lunch and learns when training is essential, but spare time is limited.

For a focused learning experience, Flexco offers in-class education at training facilities around the globe. Flexco provides comprehensive multi-day sessions that include technical training, application insights, and problem-solving techniques led by experienced Flexco personnel. With a unique format that combines classroom-style lectures with hands-on installation and troubleshooting, your team benefits from networking with other learners and sharing experiences. Dedicated time means your employees can focus on learning without distractions in order to bring best practices for maximizing belt conveyors back to your pulp and paper operation.



RISING GROWTH

The forecasted growth rate for paperboard is **7.5% for 2016-2022**



OPPORTUNITY IN RECYCLING

Europeans recycle **75% of paper products**, which can be recycled 4-6 times. Often, virgin wood fiber needs to be added to provide strength after each recycle.

**Contact your local Flexco representative
or distributor. To find a representative or
distributor in your area, visit Flexco.com.**



Partners in Productivity

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