IPCO has over 100 years' experience in steel belts and conveyor systems and this history is reflected in the quality and reliability of our comprehensive range of conveyor components and system design solutions.

Ongoing innovation means we are constantly working to develop ever more efficient solutions so please contact IPCO if you have a specific requirement or suggestion.

ipco.com

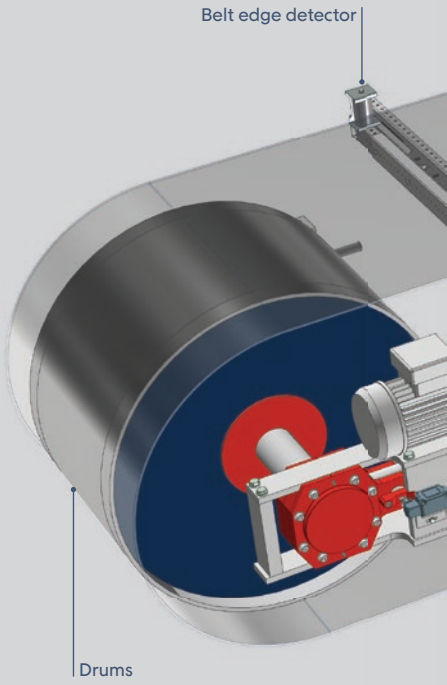
CONVEYOR COMPONENT SOLUTIONS

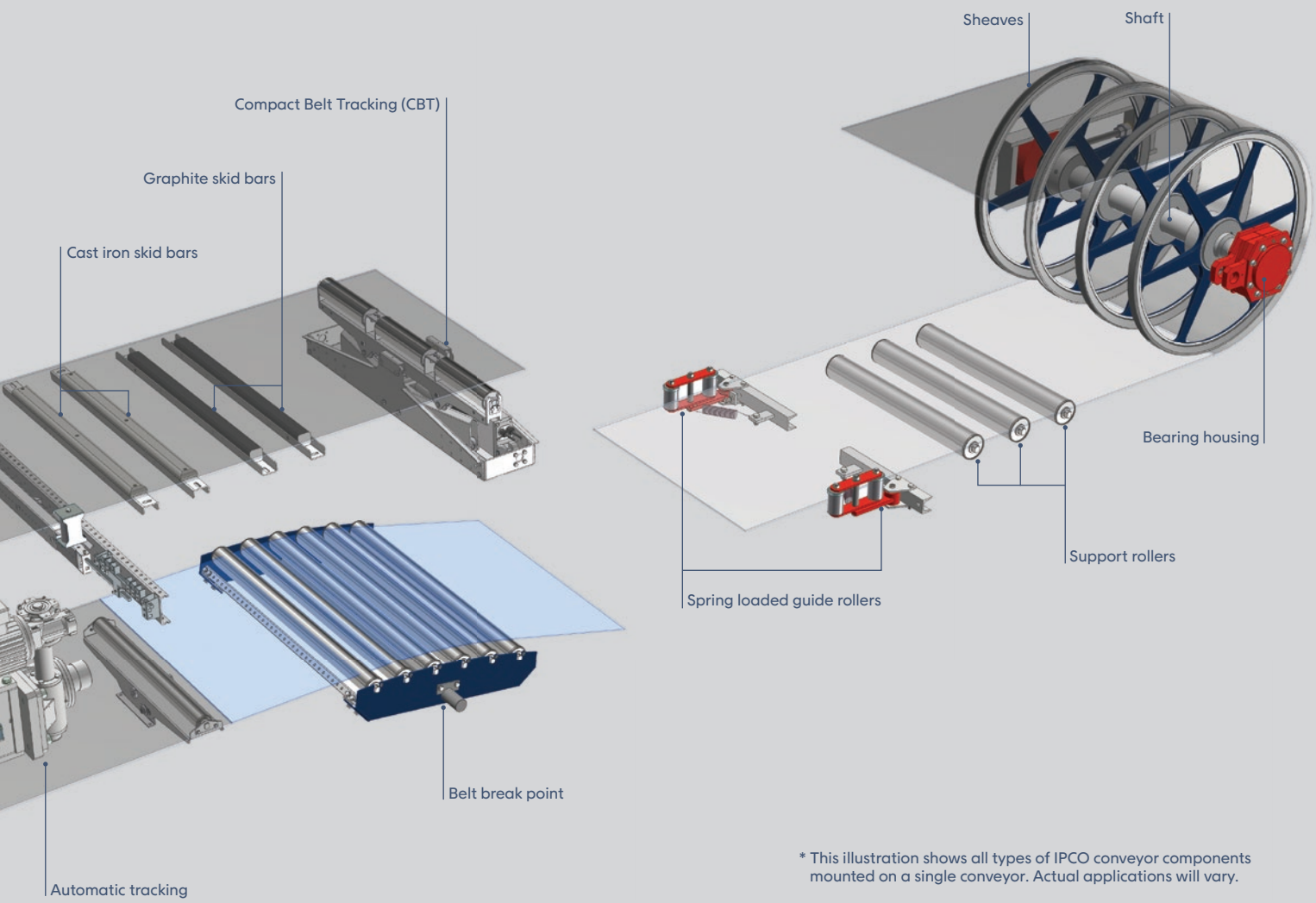
——HIGH PERFORMANCE CONVEYOR COMPONENTS FOR DIFFERENT APPLICATIONS

Our comprehensive range of conveyor components has been designed with the benefit of more than 100 years' experience in manufacturing steel belts and associated equipment. We have been supplying conveyor components for decades and they ensure reliable, productive performance on conveyor systems across a wide range of industries and applications.

This catalogue provides an introduction to the various types of standard conveyor components in our portfolio. Short summaries offer an overview of the types of components and their features and benefits. For more detailed information about specific components, please refer to specific product information brochures.

Components overview





* This illustration shows all types of IPCO conveyor components mounted on a single conveyor. Actual applications will vary.

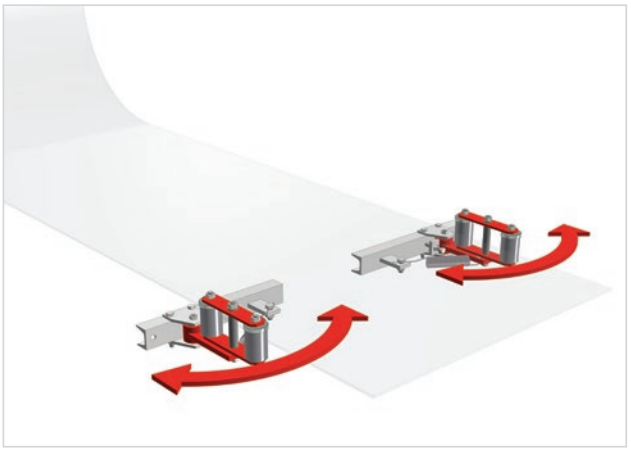
Belt tracking

Under perfect and stable conditions, a properly designed and constructed conveyor will continuously track the belt straight as it runs. But conditions are never perfect.

We have developed several belt tracking systems that correct for the lateral movement of the belt under varying environmental, loading and running conditions. These range from simple, cost effective solutions like spring loaded guide rollers to advanced tracking technologies designed for more complex applications and capable of controlling the position of the belt to within +/- 0.1 mm.

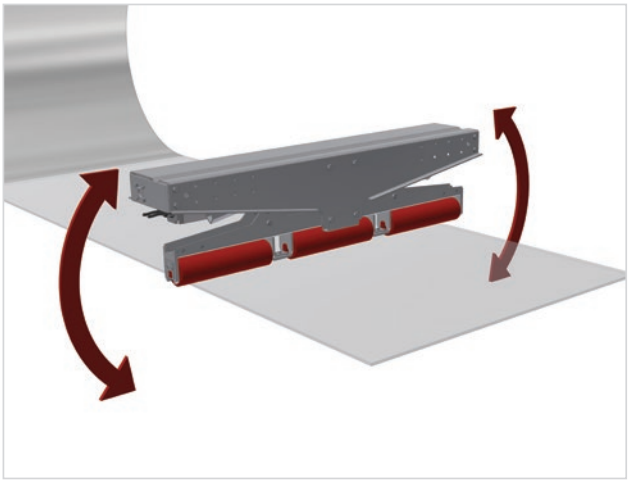
This is achieved by actively monitoring the position of the belt and supplying a corresponding motion that corrects any undesired track the belt is taking.

Spring loaded guide rollers
The benefit of the SLGR tracking system is its simplicity. A purely mechanical device, it is well suited to less complex conveyor installations or applications where the belt environment is extreme. There are no electronics, few moving parts, and it is easily mounted to an existing conveyor's frame with little modification.



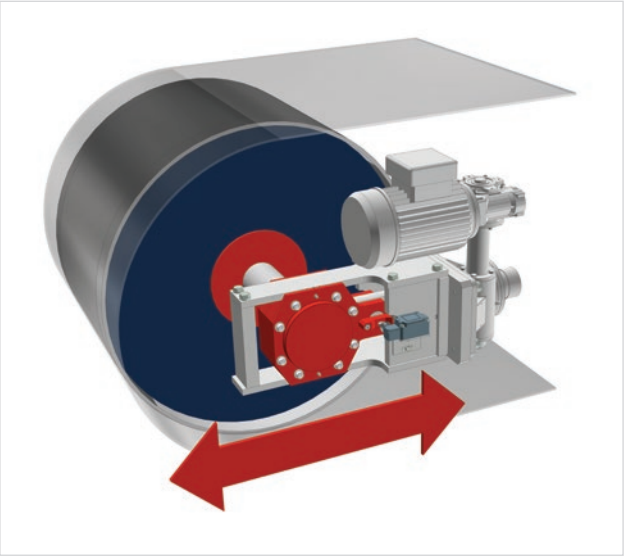
Compact Belt Tracking (CBT)
In cases where active tracking is needed on an existing conveyor and a rebuild is not practical or desirable, our Compact Belt Tracker [CBT} system often provides the best solution. Tracking is achieved by means of a tilt roller which causes the belt to move laterally as necessary, to maintain smooth, straight running.

These compact units can be mounted in a variety of positions to an existing conveyor. Their design means they are considered separate from the existing conveyor frame, and therefore usually require little modification to accommodate them.

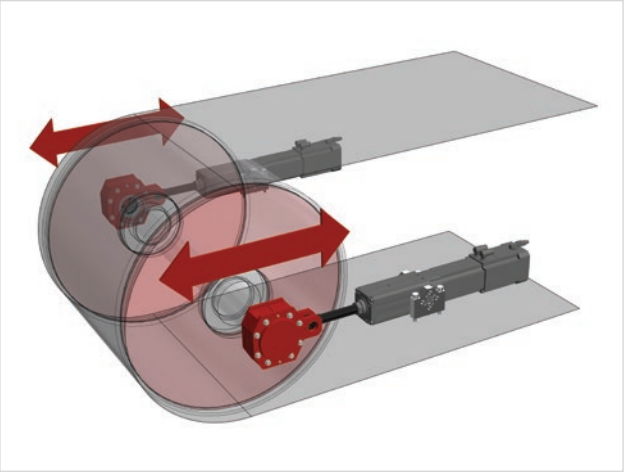


Integrated active tracking
This unit is an active tracking system that angles the drum to create the desired belt tracking motion. It is the preferred tracking method in cases where an end station is being replaced or can be rebuilt, or for clean-sheet applications where the conveyor is being designed.

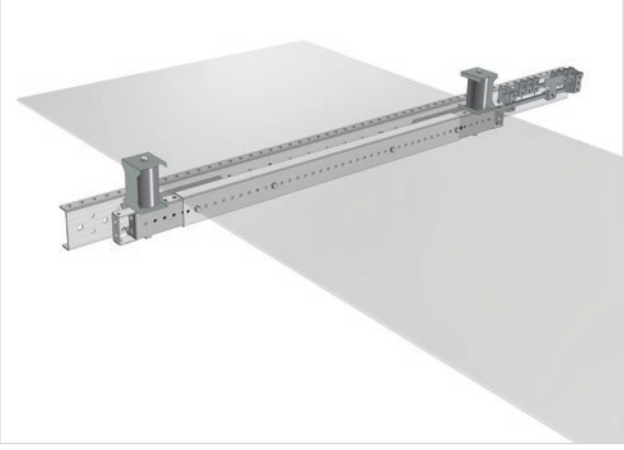
This integrated tracking system functions by pushing one bearing housing on the drive drum forward or backward, causing a slight angle of the drum relative to the belt. This drum angle steers the belt in the appropriate direction.



High Precision Tracking (HPT)
The High Precision Tracking system is IPCO's most advanced tracking solution, delivering precise control to within +/- 0.1 mm. Suitable for high speed conveyors and other application requiring high precision tracking, the HPT system uses contact free sensors, eliminating any risk of belt edge wear, and also features an integrated tensioning system.



Belt edge detector
Our active tracking systems come with a belt edge detector as standard. This monitors the movement of the belt and sends this information to the tracking system's control unit, which in turn initiates the appropriate corrective tracking movements.



Belt support

The length of most practical conveyor designs usually means that some type of support is required to hold the belt up between the end stations. Add the weight of the conveyed product and proper belt support becomes crucial to the performance of the conveyor and the lifespan of the belt.

IPCO belt supports come in two basic varieties: slide supports and rolling supports. These two types form the foundation of all IPCO's belt support components.

Sliding supports

The extremely simple nature of sliding supports allows for nearly maintenance-free operation under normal conditions. They are most often used in bake ovens or other applications where access to the supports for inspection and service is limited.

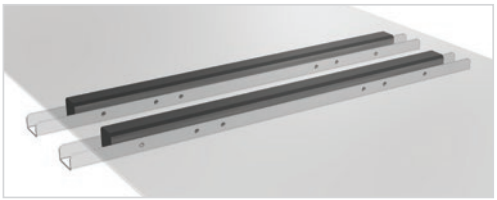
IPCO sliding supports are quality controlled in a materials research laboratory. In a properly designed and serviced conveyor they can provide years of reliable belt support (depending on the application).

Cast iron skid bars

The iron in IPCO's cast iron skid bars is specially formulated and manufactured to provide optimal performance with carbon steel belts. Additionally, the surface of each skid bar is machine finished to provide a surface roughness of no more than Ramax=3.0 µm.

These exacting specifications ensure that from first installation until replacement, IPCO cast iron skid bars will leave the belt well supported without causing unnecessary wear, even when loaded with product.

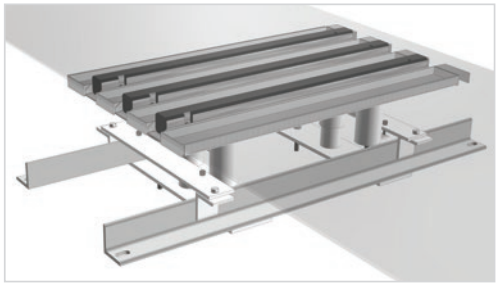
Graphite skid bars



To ensure the best working conditions for carbon steel belts, we recommend that graphite be deposited on the underside of the belt at regular intervals between cast iron supports. IPCO graphite skid bars are designed to leave a deposit of lubricating graphite on the underside of the belt in a continuous and automatic way, and have the added benefit of providing lower friction than cast iron supports.

Graphite skid bars are available in soft and hard options. Soft graphite allows better deposition of graphite onto the bottom of the belt. Hard graphite has a more limited deposition effect, which can be desirable in applications demanding cleaner operation. Hard graphite is also more suited to higher temperatures.

Graphite station



The IPCO graphite station is a standardized solution for depositing graphite on the underside of the belt. In bake ovens or in applications where the belt is cooled with water it can prevent oxidation. Installed close to the terminal drums it offers easy access for inspection and service.

The graphite support brackets are spring loaded to keep the graphite bars in constant contact with the belt, and a safety mechanism prevents the belt from contacting the metal of the support structure.

Graphite lubricant

In applications with an insufficient number of soft graphite skid bars, graphite lubrication is necessary at conveyor start-up and regular intervals after that.

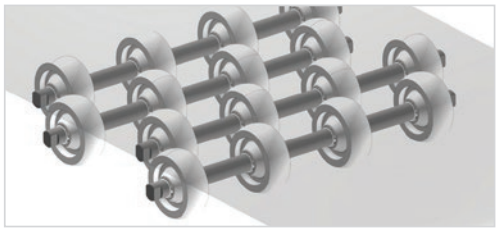
IPCO graphite lubricant is an environmentally safe, water-based formula specifically chosen for its superior lubricating properties against IPCO steel belts.

Rolling supports

The advantage of rolling supports is that, in suitable applications, they create less friction against the belt compared to sliding supports.

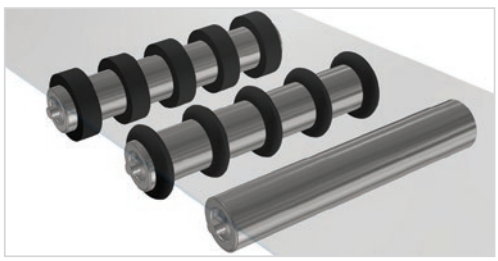
Rolling supports are available in a variety of types, with and without bearings.

Wheeled shafts Image: extract from PDF



The simplest type of rolling supports are plastic wheels mounted to a steel shaft. These are generally used as supports in simpler applications where product weight or other factors are not prohibitive.

Idlers



Idlers are steel tubes mounted to a shaft with ball bearings. They offer the least amount of friction against the belt. Idlers can also have rubber profiles attached to their outside.

Breakpoints

In circumstances where the belt must change angle over the course of the conveyor, proper design and construction of the break point where it does so is essential to avoid over-stressing the belt, shortening its lifespan.

IPCO breakpoints are assemblies of rollers that allow the belt to change angle gradually and are carefully designed to keep the change in angle to less than 3 degrees over any single roller. Additionally, the entry and exit angles to the break point are less than 2 degrees. This attention to design and construction ensures that the belt is never over-stressed.

Structural components

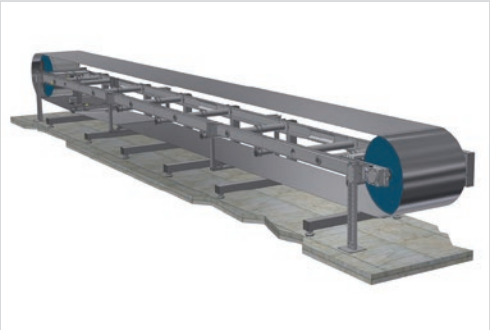
The structural design and construction of a conveyor has a direct impact on its performance and the longevity of the belt. Inappropriate design and/or low-quality components will have a detrimental effect on the conveyor and belt.

IPCO frame components are designed and built with the attention to detail that comes from extensive experience in the optimisation of conveyor performance. In short, we understand the many factors that combine to create the best possible operating conditions for a conveyor, no matter the application or environment it will operate in.

Frames and end stations

Frames and end stations provide the basic structure around which a conveyor system is built so it is vitally important that that the right decisions are made here. Whether your project is an upgrade to an existing conveyor, a partial rebuild or a completely new design, our experience – and the quality of our components – can take the uncertainty and risk out of conveyor design.

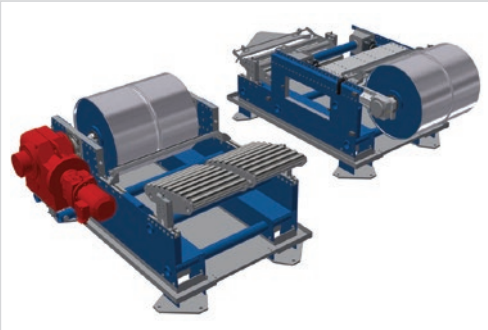
Compact conveyor frame



While many conveyor installations bring unique challenges, simpler applications can often be served by an off-the-shelf solution such as the IPCO compact conveyor frame.

Through this concept, we are able to provides solutions for simpler applications in the form of standardized frames and end stations. The compact conveyor is designed as a 'no welds needed' conveyor frame solution. Removable legs allow for quick and efficient replacement of endless (welded from the factory) belts.

End stations



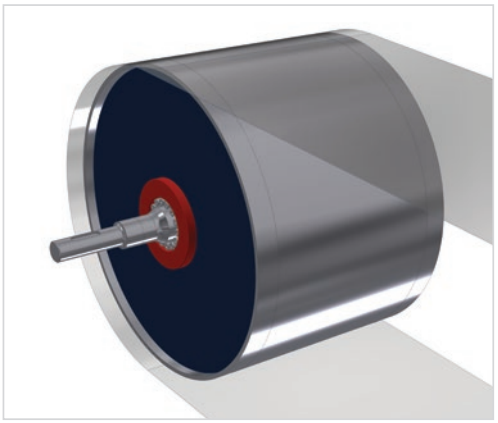
The end stations are the most complex part of a conveyor. Besides providing a sturdy 'anchor' from which to keep the pulleys in position, end stations must also allow for accurate tensioning of the belt and for providing motive power to the belt. Conveyor and process accessories are often placed at the ends stations as well, complicating them further.

With our decades of conveyor experience, we can design and build efficient tensioning and drive stations no matter the application. Whether it's a clean-sheet design or an existing conveyor in need of an upgrade, we can provide effective end station design solutions.

Pulleys

The pulleys are one of the most important parts of any conveyor. Choosing the right size as well as properly designing and manufacturing the pulleys is essential for smooth and reliable conveyor performance.

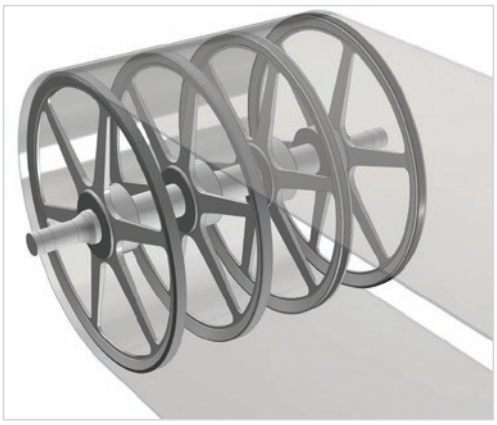
Drums



While IPCO drums are usually custom-made for each conveyor, the principles behind drum design remain constant. We have built up extensive knowledge of drum and belt behavior from a wide range of industries and applications, and we apply this to the design of each and every drum.

Select manufacturers are used to ensure that the principles of the drum's design are followed through to the manufacturing of each unit.

Sheaves



Depending on the application and the customer, sheaves are sometimes preferred over drums. We can provide a range of different sheave designs including grooved (for v-rope), chamfered, and flat. Whichever you need, you can be confident that it will be designed and manufactured to the same exacting standards as all other IPCO components.

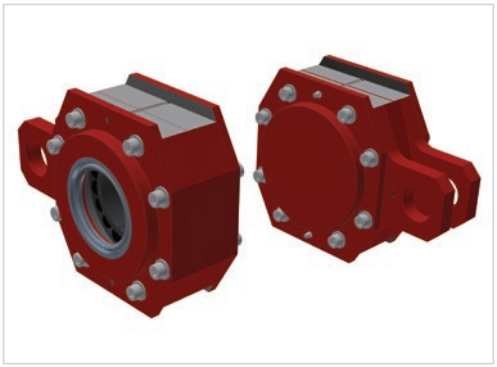
Shafts

We can provide properly dimensioned and manufactured tension and drive shafts for both sheaves and drum applications.

Bearing housings and frames

The forces transmitted through the main pulley shafts in a conveyor can be tough on bearings. We have decades of experience in specifying the best bearings and designing the best housings to take up these forces, even under the most demanding running conditions, to maximise reliability.

IPCO bearing frames are optimized for easy adjustment and servicing, low maintenance, and long reliability. They are suitable for easy integration into new conveyor designs or retrofit into existing conveyors.



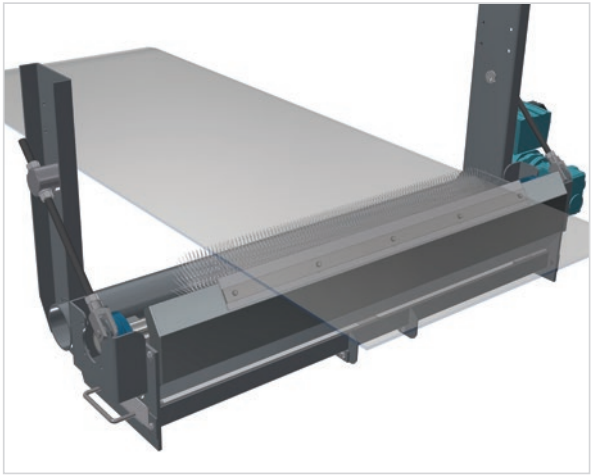
Belt cleaning

Many applications, especially in the food sector, require efficient automatic belt cleaning equipment and we can provide solutions that are designed for easy installation, adjustability and reliability.

As well as ensuring optimal product quality, a clean belt also benefits from improved tracking characteristics and a greater lifespan.

Belt cleaning device

The IPCO belt cleaning device is an easily installed frame with an electronically controlled rotating brush. Brush speed is variable and there are several brush materials available to suit different applications.



Our Special Engineering team is available to share their expertise with customers around the world and provide expert support in areas such as:

- Belt design.
- Conveyor design.
- System upgrades.
- Conveyor components solutions.
- Problem solving.

www.ipco.com/applications/conveyors-and-conveyor-components

CONVEYOR COMPONENT SOLUTIONS

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