IPCO has over 100 years of experience with belts and conveyors. This long history is reflected in the quality and reliability of all our conveyor components and conveyor design solutions.

If you can't find the part you're looking for here, please don't hesitate to contact IPCO with questions, suggestions, or cooperation opportunities.

ipco.com

CONVEYOR COMPONENT SOLUTIONS

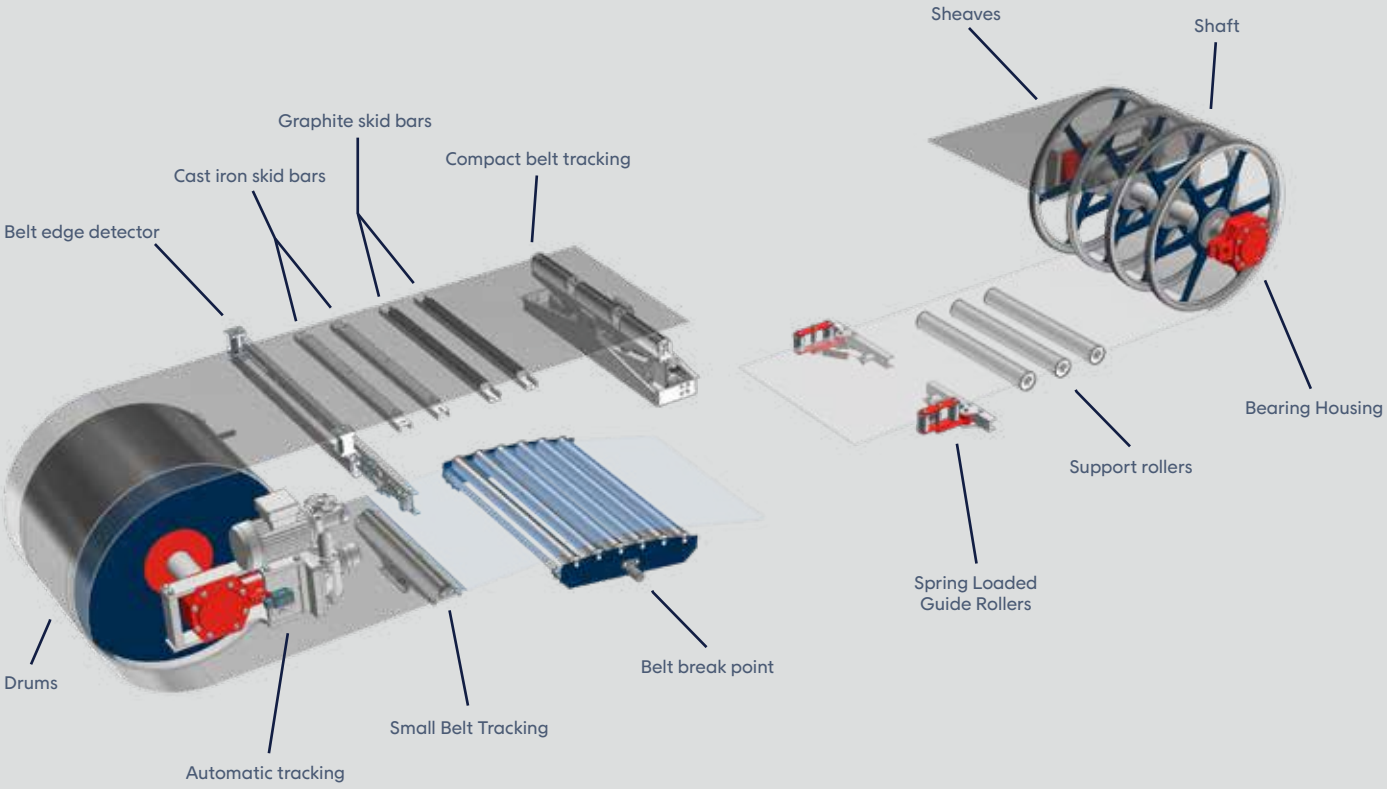
CONVEYOR COMPONENTS

IPCO conveyor components are designed with the knowledge and understanding of steel belts that comes from one hundred years of experience. Our components have been working effectively and reliably in a wide variety of industries and applications for decades.

This catalogue provides an overview of the various types of standard conveyor components in IPCO's component portfolio. Short summaries of the types of components and their features and benefits are given. For more detailed information about specific components, see their product information brochures.

* The picture on the following page shows all IPCO conveyor component types mounted on a single conveyor. Actual applications will vary.

Components Overview



Belt Tracking

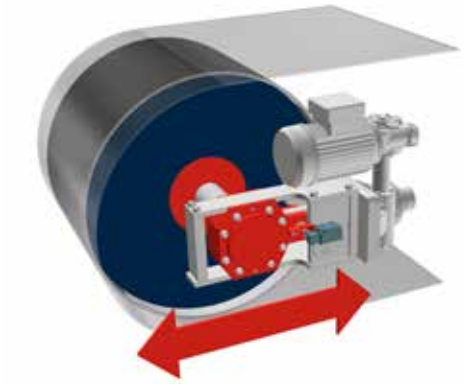
Under perfect, unchanging conditions a properly designed and constructed conveyor will continuously track the belt straight as it runs. But conditions are never perfect.

IPCO has several belt tracking systems that correct for the lateral movement of the belt under varying environmental, loading and running conditions. Both passive tracking systems, for simpler installations, and active tracking systems for more advanced and sensitive applications are available.

Active tracking systems

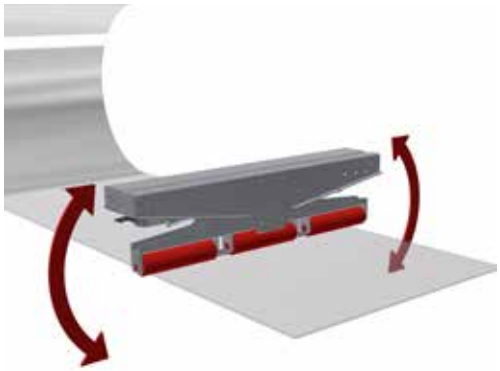
For more complex applications where there are multiple or especially sensitive variable conditions, IPCO recommends "active" tracking solutions. These function by actively monitoring the position of the belt and supplying a corresponding motion that corrects the undesired track the belt is taking.

There are two design variants of IPCO active tracking systems: integrated systems that are built into the design of the conveyor, and separated systems that are easier to install on existing conveyors.



Integrated active tracking (AT)
The AT unit is an active tracking system that angles the drum to create the desired belt tracking motion. The AT 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.

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



Separated active tracking (CBT, SBT)
In cases where active tracking is needed on an existing conveyor and a conveyor rebuild is not practical or desirable, IPCO's tilt roller tracking systems are the best choice. These compact tilt roller units can be mounted in a variety of positions to an existing conveyor. Due to their design they are considered "separate" from the existing conveyor frame, which usually requires little modification to accommodate them.

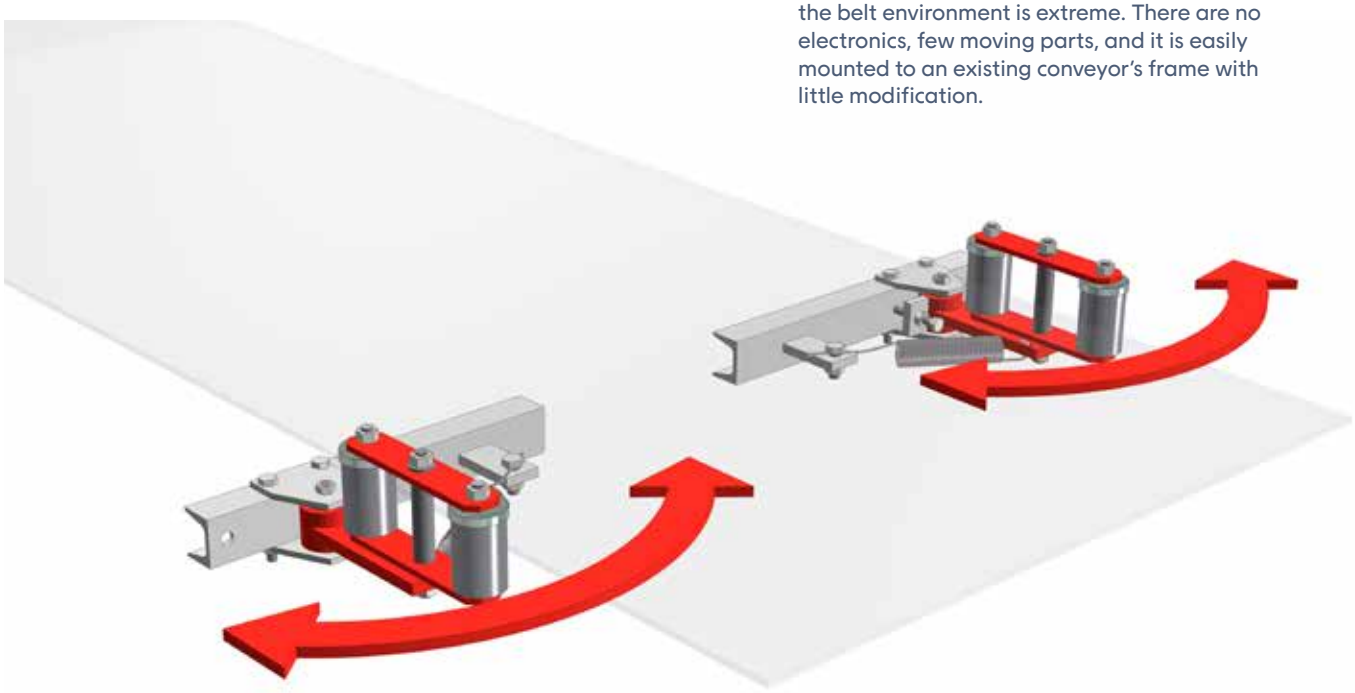
To correct tracking problems tilt rollers push upwards on the outside edges of the belt, causing one side of the belt to move laterally in the appropriate direction.

Belt edge detector (BED)
IPCO's active tracking systems come standard with a BED. The BED monitors the movements of the belt and sends this information to the tracking system's control unit, which initiates the appropriate corrective tracking movements.

Passive tracking systems

Passive tracking systems are purely mechanical devices that push against or otherwise impede the belt's lateral movements.

Spring loaded guide rollers (SLGR)
The benefit of the SLGR tracking system is its simplicity. It is well suited to less complex conveyor applications 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.



Belt Support

The length of most practical conveyor designs is large enough that some type of supports are 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 nominal conditions. They are most often used in bake ovens or other applications where access to the supports for inspection and service is limited.

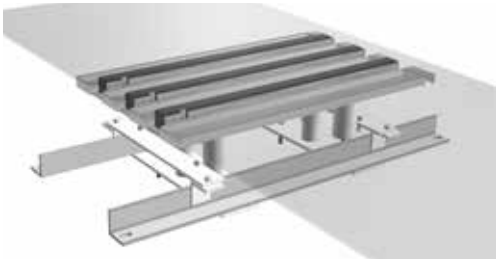
IPCO's sliding supports are quality controlled in a materials research laboratory. In a properly designed and serviced conveyor they can provide years of reliable belt support (depending on the application).

Cast Iron Skid Bars
The iron in IPCO's cast iron skid bars is both specially formulated and specially manufactured to provide optimal performance against carbon steel belts. Additionally, the surface of each skid bar is machine finished to provide a surface roughness of no more than Ra_{max}=3,0 µm.

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

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

The graphite bars are available in two types: soft and hard. Soft graphite allows better deposition of graphite onto the bottom of the belt. Hard graphite has a more limited deposition effect, which can be desired in applications demanding cleaner operation. It 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.

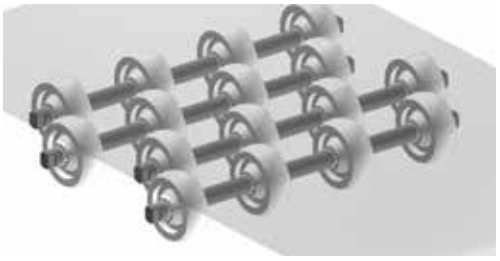
Graphite Lubricant
In applications with an insufficient number of soft graphite skid bars, graphite lubrication is necessary at conveyor start-up and regular intervals after that.

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

Rolling supports

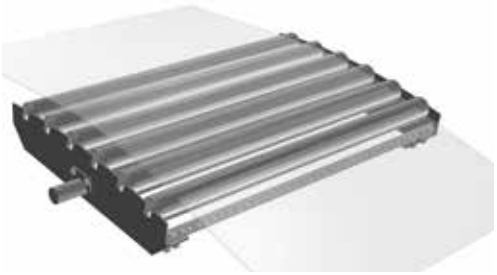
The advantage of rolling supports is that, in suitable applications, they create less friction against the belt compared to sliding supports.

Rolling supports come with bearings and without in a variety types.



Wheeled shafts
The simplest type of rolling supports are plastic wheels mounted to a steel shaft. Generally these are 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.



Break points
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 break points 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° over any single roller. Additionally, the entry and exit angles to the brake point are less than 2°. This special design and construction ensures that the belt is never over-stressed.

Structural components

The structural design and construction of a conveyor has a direct relation with the conveyor's performance and the longevity of the belt. Using poor design choices and low-quality components will have noticeably detrimental effects on the conveyor and belt.

IPCOs frame components are designed and built with careful attention to detail, and from long experience with the factors that create the best possible operating conditions for a conveyor, no matter the application or environment it will operate in.

Frames and end stations

IPCO offers several types of standard solutions when it comes to building conveyors. Whether it be a revision to an existing conveyor, a partial rebuild or a completely new design, choosing IPCO components takes a large part of the uncertainty and risk out of a conveyor's design.

Compact conveyor frame

Every application presents new and unique challenges but, for simpler applications, IPCO's one size fits all compact conveyor frame is a great choice. With the "compact conveyor" concept, IPCO provides solutions for simpler conveyors in the form of standardized frames and end stations. The compact conveyor is designed as a standardized no welds needed conveyor frame solution. Removable legs allow for quick and efficient replacement of endless (welded from the factory) belts.

End stations

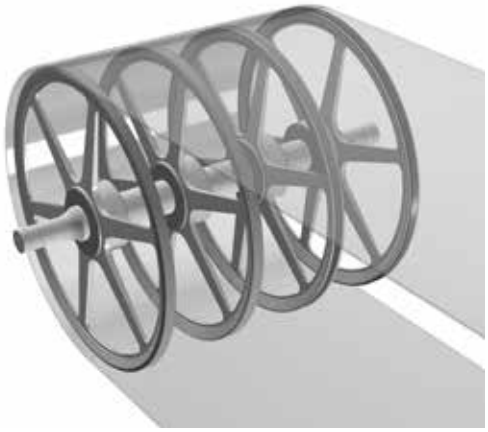
The end stations are the most complex part of a conveyor. Besides providing a sturdy construction to keep the pulleys in position, end stations must also allow for accurate tensioning of the belt and for providing motive power to the belt. Conveyor and process accessories are often placed at the ends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

IPCO, using its decades of conveyor experience, designs and builds effective and 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, IPCO is ready to do the heavy lifting when it comes to proper end station design.

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
IPCO drums are most often custom-made for each conveyor, however the principles behind drum design remain constant. IPCO has gathered knowledge of drum and belt behavior from many industries and applications and applies this knowledge in the design of each drum. Select manufacturers are used to ensure that the principles of the drum's design are followed through to the manufacturing of each unit.



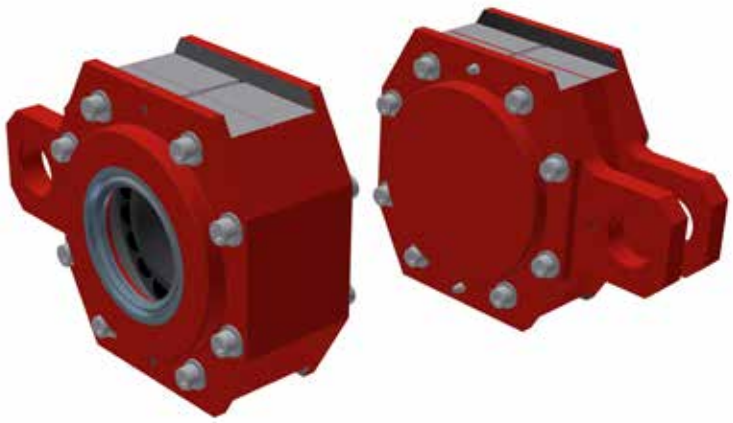
Sheaves
Depending on the application and the customer, sheaves are sometimes preferred over drums. IPCO has several sheave designs to offer including grooved (for v-rope), chamfered, and flat, each offering the same background and technical expertise as all IPCO's components.

Shafts
IPCO 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 surprisingly tough on bearings. IPCO has decades of experience choosing the best bearings and designing the best housings to take up these forces, even under 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 segment, require special solutions for automatically cleaning the belt. IPCO has solutions that are designed for easy installation, adjustability and reliability.

Besides an increase in product quality, a clean belt increases both its lifespan and improves it's tracking characteristics.

Belt cleaning device (BCD)

The BCD is an easily installed frame with an electronically controlled rotating brush. Brush speed is variable and there are several brush materials available depending on the application.

IPCO's Global Service Special Engineering team is eager to share their expertise by helping customers with:

- Belt design
- Conveyor design
- Conveyor components solutions

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

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