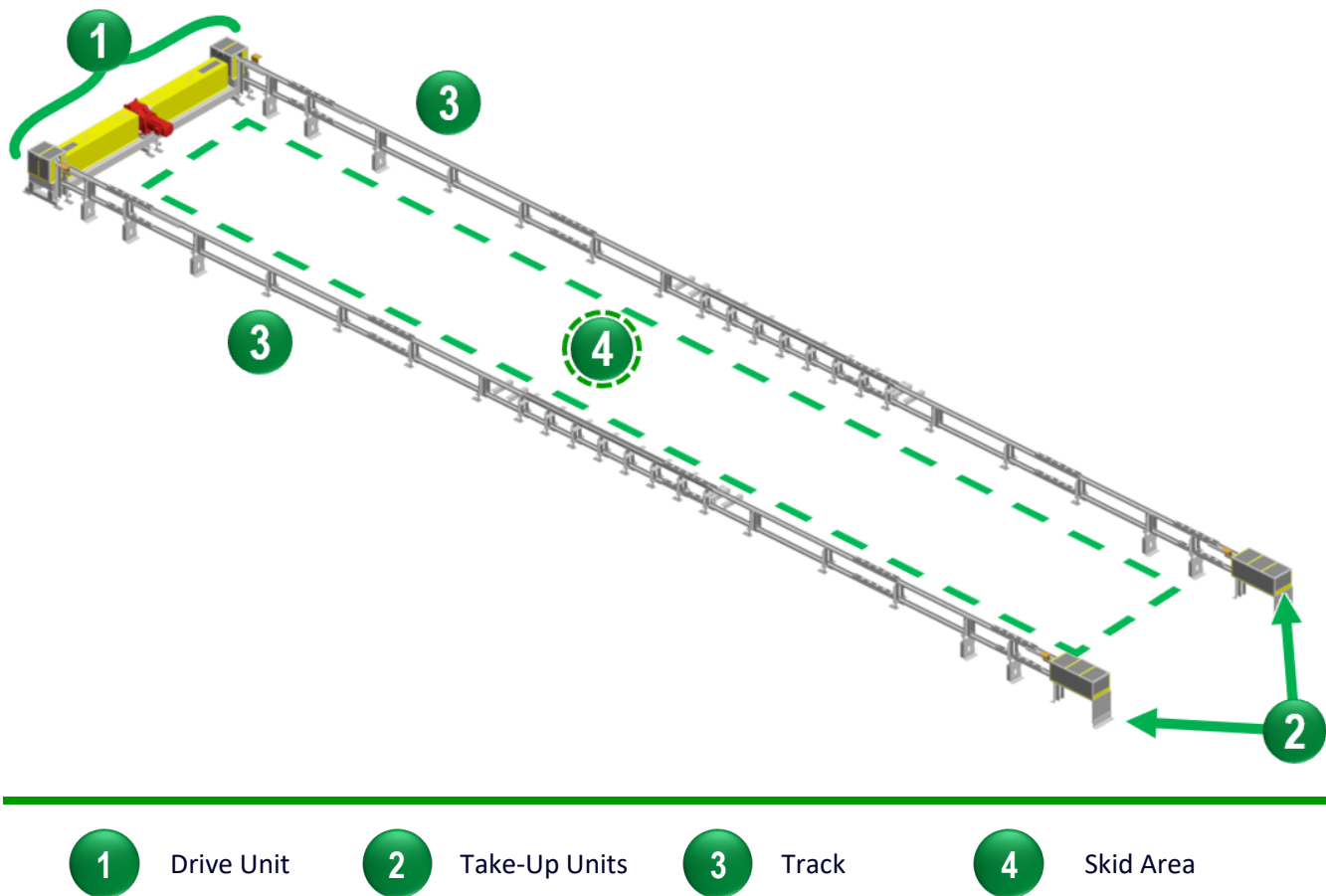


Chain Cross Transfer – Typical Components



Chain Cross Transfer Overview

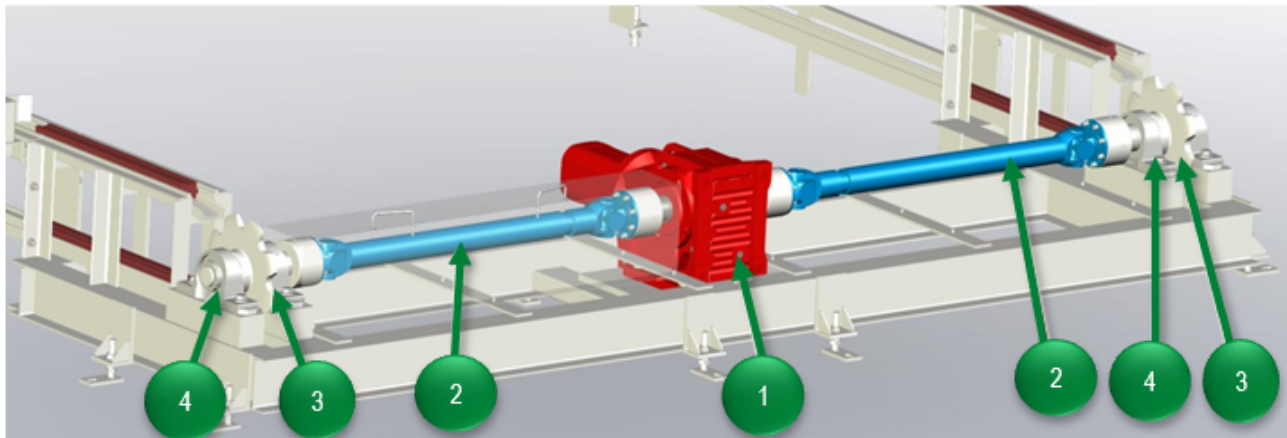
A Cross-Chain Transfer (CCT) conveyor is a material handling conveyor system designed to move products or carriers laterally (perpendicular) between adjacent conveyor lines or process stations using parallel chains.

Key Characteristics include:

- **Lateral (cross-direction) movement** - Transfers items across the main flow path, typically at 90 degrees to the primary conveyor direction.
- **Chain-driven transport mechanism** - Utilizes one or more parallel chains mounted on a frame to carry loads such as skids, pallets, or workpiece carriers.
- **Integration within conveyor systems** - Commonly installed between longitudinal conveyor lines to enable line-to-line transfers, merging or diverting flows, and/or buffering between processes.

The Chain Cross Transfer conveyor consists of a drive unit and 2 take-up tensioning units. Between the drive and the take-up units are the conveying track profiles and proximity switches. The length of the conveying track profile is variable. The maximum length depends on the power of the drive unit and the number of skids they shall be conveying at any one time.

Chain Cross Transfer Drive Unit


1

Gearmotor

2

Cardan Shaft

3

Drive Sprocket

4

Pillow Block Bearing

Chain Cross Transfer Drive Unit Overview

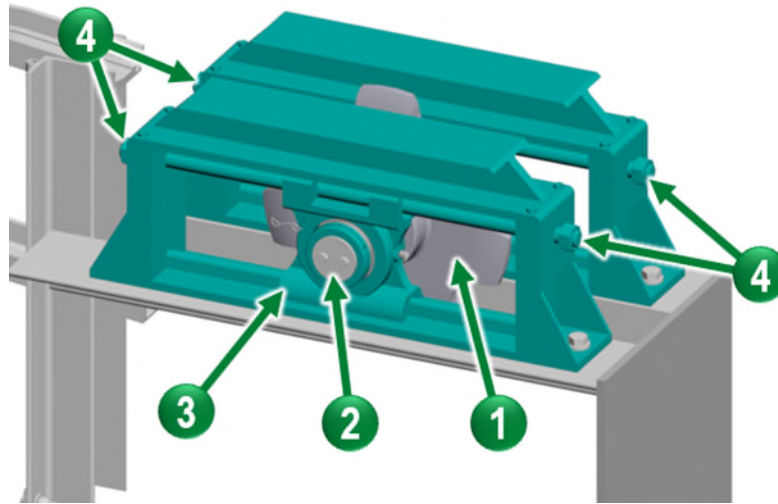
The Chain Cross Transfer Drive Unit is the primary power source of the cross-chain transfer conveyor system, responsible for generating and transmitting motion to the conveyor chains to facilitate lateral skid transport.

The drive unit consists of a gearmotor, drive shaft, sprockets, bearings, and associated power transmission components, arranged to deliver rotational torque to the conveyor chains. Through this assembly, mechanical energy from the gearmotor is transferred to the drive sprockets, which engage the chain links and initiate controlled movement along the conveyor track.

Power transmission typically occurs via a direct or indirect coupling system, which in this case includes a cardan shaft to connect the gearmotor to the main drive shaft. The shaft is supported by pillow block or split-block bearings to maintain alignment, stability, and smooth operation during continuous conveying.

As the drive sprockets rotate, they engage the underside of the chain, pulling it along the track profile. This motion enables the conveyor to transport skids or carriers perpendicular to the primary conveyor flow, ensuring accurate and synchronized cross-transfer between process stations.

Chain Cross Transfer Take-Up Unit



1 Take-Up Sprocket

2 Take-Up Shaft

3 Take-Up Housing Unit

4 Tension Adjustment

Chain Cross Transfer Take-Up Unit Overview

The Chain Cross Transfer Take-Up Unit is responsible for maintaining proper tension and alignment of the conveyor chains within the cross-transfer system.

Located opposite the drive unit, the take-up unit consists of take-up sprockets, shafts, bearings, and an adjustable tensioning mechanism, typically mounted within a structural frame or housing. This assembly allows for controlled adjustment of the chain position to compensate for wear, elongation, and thermal expansion during operation.

As the conveyor operates, the chains engage with the take-up sprockets, which guide the chains along the return path and ensure consistent engagement with the drive sprockets. The adjustable take-up mechanism enables maintenance personnel to increase or decrease chain tension as required, ensuring smooth operation and preventing slack or misalignment.

The take-up unit plays a critical role in maintaining overall conveyor performance by ensuring that the chains remain properly tensioned and aligned throughout the system. Proper tensioning helps to:

- Prevent premature wear of chains and sprockets
- Maintain accurate skid positioning during transfer
- Ensure efficient power transmission from the drive unit