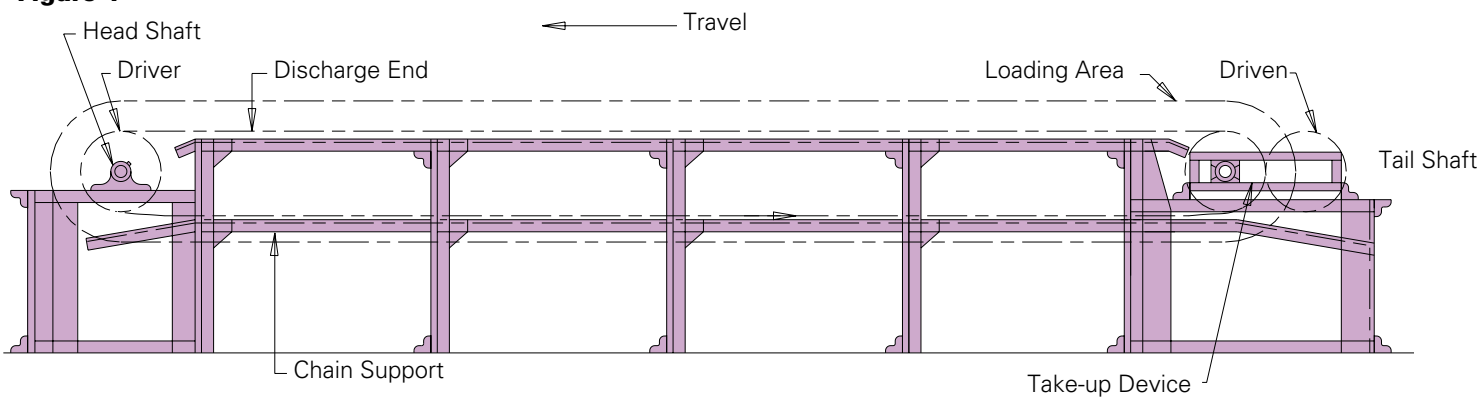
Roller Conveyor Chains

Figure 1



Roller Conveyor Chains are used to transfer bulk or unit product from one point to another. A typical conveyor frame is shown in Figure 1.

Design Considerations

Drive End

Apply driving power to the discharge end of a conveyor so that only the carrying run is under maximum tension. Apply power to the head sprocket through another chain and sprocket.

Pre-tension and Take-ups

Provide take-ups in all conveyor installations to ensure slack for installation and maintenance and to compensate for elongation due to wear. Install the catenary take-up at the head end of the conveyor; install all other take-ups at the foot or loading end of the conveyor.

Points to Consider

1. Ensure that chain is always engaged with at least three sprocket teeth.
2. For long conveyors, use take-up devices to eliminate chain slack. Take-up stroke = (C x 0.02) + S

Where:

C = Center distance between sprockets

S = Catenary sag allowance

For conveyors shorter than 50 feet, consult Union Engineering.

(***Note:*** The above equation is for conveyors longer than 50 ft.)

Long Shaft Center Distances

For unusually long shaft centers, either use two conveyors with a transfer point or use bearing roller chain. Contact Union Engineering for more information.

Return Chain Supports

On chain conveyors more than fifteen feet long, support the return strand on a track or guide to minimize pulsation and whip and to prevent the sagging chain from striking obstacles.

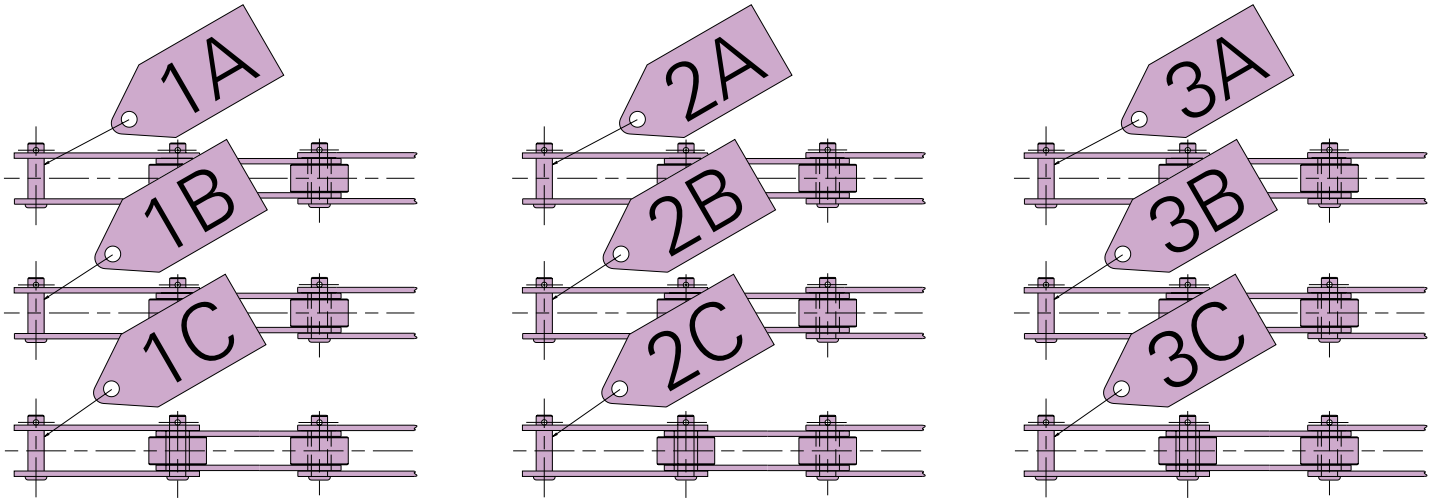
Operating Temperatures

Standard conveyor chain can be operated normally in ambient temperatures between 15˚F and 140˚F. Select the appropriate chain for conditions outside of this range, including operation in freezing chambers or heat-treatment ovens.

Matched Strands

For multiple strand operation, specify "matched and tagged chain" along with the number of strands required. The factory will match the chain for uniform length and accurate attachment alignment. In this multiple strand case, all sprocket teeth on the head shaft should be aligned. Strand matching and tagging are shown in Figure 2.

Figure 2



Right- and Left-hand Strands

Right- and left-hand strands are required in all multiple strand installations where the chain attachments, slots, or lugs are not symmetrical. Many conveyors must have cotters on the inside to clear guide rails and angle frames with the pin head on the outside, see Figure 3.

Figure 3