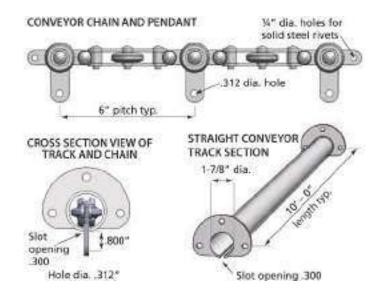


## Design Guidelines

# **PACLINE Enclosed Track Conveyor**

An enclosed track overhead conveyor consists of a powered chain running within a round track. Loads are suspended from the chain pendants that stick out of the slot of the track. This conveyor is considered for synchronous operation, where the loads carried all move at the same speed. The chain can be stopped and started as desired, but all loads will react similarly.



## **Step 1:** Is an overhead conveyor the right choice?

Overhead conveyors can carry a broad range of products, many of which are unconveyable on other types of conveyors. Most overhead conveyors can operate on only 1 motor, even though they travel in a complete path of ups, downs and turns. If the product is awkward and the travel path is not straight, an overhead conveyor is the ideal choice.

#### Step 2: How will I carry my product?

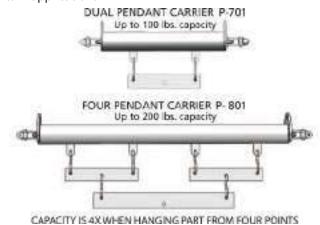
The product carrier can be as creative or as simple as required. It can be a hook or a machined fixture. It can carry a single product, or multiple products.

# **Step 3:** Can the PACLINE conveyor handle the capacity that I require?

#### Loads and capacities

Designed for medium capacity loads of up to 50 lbs. per pendant or by coupling multiple pendants, loads can be increased accordingly: 2 pendants - 100 lbs., 4 pendants - 200 lbs. Consult a Pacline engineer for increased load carrying capacities as track and support capacity need to be considered. This enclosed track conveyor can run horizontally and vertically at any incline

required. It can also run inverted with the pendant facing up in certain applications.



# **Step 4:** Can my rate of production be met with a single overhead conveyor?

Your carrier design (size and number of products on each), carrier spacing and the speed of the chain all contribute to the maximum production rate of the conveyor.

TIP - Product carriers may collide on curves or inclines and declines if placed too closely together.

# **Step 5:** Prepare a simple line drawing of the ideal and shortest path from load to unload.

Add details such as direction of travel, load/unload points, incline/declines and mark the actual elevation changes.

# **Step 6:** Consult a PACLINE Engineer for advice on total chain pull and drive/take-up placement.

More than one drive may be required depending on load and speed. Take-up(s) should be located as close to the drive as possible and, at the lowest location in the system.

### Step 7: How will I support the conveyor system?

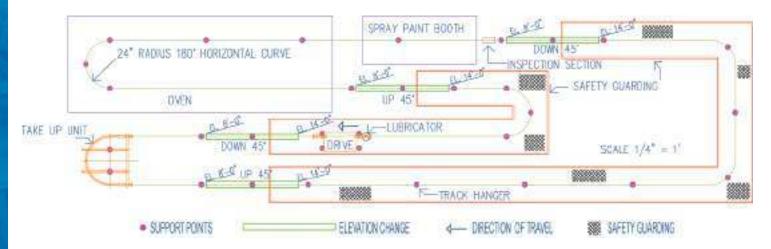
Overhead conveyors can be supported from the floor, or ceiling, or both. Lower elevations are best supported by floor posts, which are less expensive and easy to install. Conveyor close to the ceiling is best supported by the building steel rather than tall supports. A PACLINE Engineer can help you determine the best method and the required spacing.

#### **Step 8:** Is my conveyor system safe?

Products traveling overhead can fall off and cause injury to staff and equipment below. You need to evaluate the risks posed by the moving equipment and provide safety items such as warning signs, emergency stops, barriers, under-guarding, lights, etc.

# **Typical Conveyor Layout and Components**

### A simple line drawing can depict your system layout

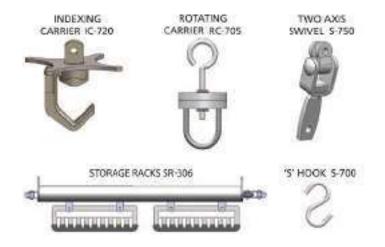


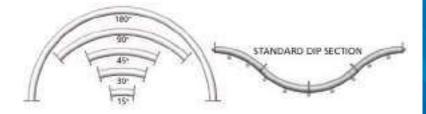
#### **Carriers**

Carriers are designed specifically to suit each application, keeping in mind the importance of adequate clearance between carriers on curves and elevation changes. Govern the pitch by the rate at which loads are handled and by the speed of the conveyor. Carriers must be designed to balance the load. For close center carrying use the multiple slotted Storage Rack carrier SR-306.

#### **Curves**

Many combinations of curves may be achieved by joining standard horizontal and vertical curves. All curves are hardened and plated for wear resistance and clean operation. No corner wheels or sprockets are required, reducing installation and maintenance costs. All horizontal and vertical curves are available in stock sizes of 15°, 30°, 45° and 90° with an 18" or 24" radius. Horizontal curves are also available with radii of 9", 12", 18", 30" and 36". Special radii are available upon request.





## Take-Up Assembly TU-602

All power conveyors require a take-up in order to maintain smooth chain operation throughout the entire system. The TU-602 comes standard with a 24" radius, 180 degree curve. Suitable compression springs are mounted on both sides of the take-up curve and provide a chain tension at all times. Smooth movement of the chain is thereby assured even where a wide range of temperatures exist, such as with oven installations. Take-up assemblies are also available in center line radii of 12", 18", 30", 36".



#### Track Hanger Clamp TH-200 (with ½" threaded rod for ceiling or floor supports)

Shown with AC 120 angle clip

The special design of our TH-200 Track Hanger allows for location on any length of track including the vertical incline sections. The swiveling 1/2" threaded rod always locates in an upright position. To ensure adequate supports, we recommend that the following guide be used.

Load per foot	Center Distance of Supports	1
1 – 35 lbs.	Every 10 ft.	4
35 – 65 lbs.	Every 7 ft.	6
over 65 lbs.	Every 5 ft.	1

All components are zinc plated for corrosion resistance.

## **Bracing Connector SB-450**

The SB-450 is designed to mount onto the TH-200 Track Hanger for rigid support cross bracing. This unique clip will swivel to any angle so as to permit bracing from the most desirable point (e.g. from roof girder or from SB-750 wall clip.) This connector comes with standard RH ½" threaded rod for mounting. Zinc plated finish.

## **Typical Pipe Support Assembly**

This is our preferred method of conveyor support. 3/4" I.D. Sch. 40 pipe may be used. Completely bolted construction eliminates welding overhead. Adjustable lower clamp for ease of leveling. Zinc plated finish.

## Typical Angle Iron **Support Assembly**

Angle iron supports are an alternate means of suspending overhead conveyors. Standard Pacline attachments eliminate the need for welding and facilitate leveling of the conveyor track.



## Track Joining Flange TF-204

All standard 5' and 10' track sections, curves, drives and take-ups include the track flanges on each end for ease of assembly. Where standard track lengths are to be cut into smaller lengths, the TF-204 track flanges can be utilized.



## **Track Inspection Section TI-265**

Every system should contain at least one track inspection section for the purpose of access to the chain for installation, maintenance, inspection, lubrication and cleaning if necessary. For convenience we recommend that every 200' of conveyor track have one inspection section.



#### **Track Hanger TH-210**

This low profile hanger allows track bottom to be within 3-1/2" of supporting structure and is ideal for use in multi-layer ovens.



## **Bracing Connector SB-750**

This SB-750 is utilized when 90° sway bracing is required. This clip is designed to mount onto any flat surface (e.g. concrete or block wall, steel beam, post, etc.) This connector comes with standard RH Threaded Rod mounting. Used in conjunction with SB-450 Sway Brace Clip.



#### Beam Clamp BC-300

The BC-300 can be used to support and attach to an overhead beam or truss building structure. This mounting clip will accommodate any standard I-beam with maximum overall width of 9". This same clip can also be used to attach sway bracing to an overhead structure.



## Advantages of the PACLINE overhead conveyor system

- Prefabricated modular design ensures quick, trouble free on-site installations and modifications.
- Enclosed track prevents contaminants from reaching the chain and bearing surfaces.
- Conveyor drive can be located in the optimum or most convenient location and is not confined to a horizontal turn.
- Rapid changes in elevation are easy to accommodate.
- Overhead conveyor frees valuable floor space.
- Low profile track design reduces size of ovens, spray booths and other process equipment.



Prefabricated modular design



Conveyor drive conveniently located



Frees valuable floor space



Chain protected from contamination



Handles rapid elevation changes



Low profile track is compact

## **Conveyor Applications**

#### **PACLINE Customer Support**

Detailed installation and maintenance manuals



Design and simulation using Solidworks



Technical information on our website



Complete control capabilities



Worldwide installation





**Empty Carton Handling** 



Powder Coating and Finishing



Parts Accumulation and Storage



Trash Handling



Over/Under Parts Buffers



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