

What is a Conveyor?

Conveyors are designed to move material or products and improve efficiency and throughput.

Conveyors are used in a variety of industries including material handling, metal working, industrial, food processing, distribution, cosmetics, medical and pharmaceutical, plastics, packaging, automotive, and much, much more.

Why Use a Conveyor?

In general, conveyors are used to move a product from one location to another. Almost all processed or packaged products are moved on a conveyor at some stage in their life cycle.

There are a variety of reasons to install conveyors including:

- Product Movement /Flow
- Improved Efficiencies
- Labor
- Speed/throughput
- Safety/Ergonomics
- Reduce product handling
- Food/product safety
- Point of purchase appearance
- Product quality

Application Overview

In general there are 4 main ways to use a conveyor:

- Input and output to or from a machine
- Move through a machine
- Bridge between machines in line
- Mainline conveyance



Conveying Methods

Many conveying methods exist, however major categories include:

- Mining/Aggregate
- Screw
- Gravity
- Belt
- Precision Belt
- Plastic Chain and Modular Belt
- Pallet Handling or Pallet Systems

When looking specifically at packaging and light industrial conveyance, each conveyor presents a variety of features and benefits.

Gravity Conveyors are a simple, low cost method for product handling. They can be designed to operate with or without a motor and are typically used in distribution centers and case conveyance applications.

Belt and Chain Conveyors are the most common method and can be used for product control, Inclines/Declines, added flexibility and increased throughput/efficiency

When deciding between a fabric belt or chain, application will dictate which one to select. Each present unique values. Fabric belts feature a tighter belt pulley wrap for small product transfers, can often run at higher speeds and provide more precise movement. In addition they are often 'cleaner' and produce less debris than modular belts. Chain conveyors are ideal for accumulation applications, curves, heavier loads, and mass flow applications. Chain styles vary and are generally categorized into modular belt and flexible chain styles.

Precision Belt conveyors provide precise product movement. Often referred to as 'Smart conveyance' and operating like a machine, precision belt conveyors use belt tracking versus a crown pulley.

Another method of conveyance includes pallet handling or **Pallet Systems** where pallets move along a single or dual lane conveyor system to provide product staging and manipulation in automated and manual assembly processes.



Conveyor Construction

Conveyors can be constructed with several frame materials including aluminum, stainless steel, painted steel and more. Frame selection, belting options, and components are dependent on industry regulations, application environment and product specifications.

Beyond standard product movement, conveyors can be used to rotate, divert, sort, accumulate, reject, merge, inspect products and more.

Conveyors can be equipped with a variety of motor and controller options, stand options, and accessories.

Robotic Integration

Additionally, conveyors are often integrated with robots for maximized automation. Robots can assembly product directly on a conveyor or be used to move products on an off the conveyor for the next phase of the production process.

Conclusion

Different conveyors have distinctive features that allow for maximized output for specific applications. Having a thorough understanding of specific types of conveyors available will help in designing a system that best accomplishes your production goals.

Module Presented by:



For more information or help selecting the right conveyor for your application, visit www.DornerConveyors.com!