



# Surface Conveyor Systems





## Why Continental Conveyor?

Our conveyor systems are designed to economically move many types of materials in a range of conditions to support your operation's productivity goals. We can design your conveyor system using in-house engineering capabilities and supply the correct equipment for the application, including our tapered roller bearing idlers that offer increased load carrying capacity when compared to ball bearing idlers in the same CEMA class. We have been supplying these products to the industry for decades.

We manufacture many of the key conveyor system components to provide you with highly reliable equipment that contributes to higher productivity levels. Working with you during the design phase allows us to design and supply a conveyor system for your specific requirements.

## Drives

Properly designed terminal equipment is at the heart of any conveyor system. The correct application is key to a conveyor's performance and productivity.

The drive section is one of the most important terminal components in a conveyor system. It should be carefully selected to ensure that the arrangement is suited to the application. There are three basic types of drives: single pulley, skid-mounted drive / take-up, and remote drive.

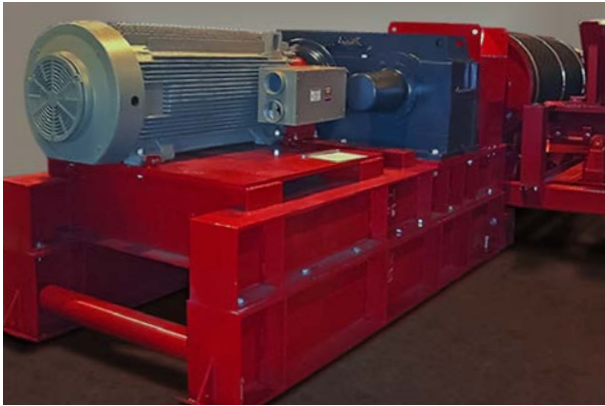
The single pulley type drive is available for low horsepower conveyors. The skid-mounted drive / take-up is a single unit that provides the necessary power for your conveyor system, while maintaining proper belt tensions. The skid-mounted design provides mobility options for frequent relocations.

The remote drive is most frequently used on permanent installations. It is available with single, dual, triple, or quadruple drive trains. It is also available with tandem drive pulleys, or with our four-pulley arrangement.

Each specification is designed and furnished to your requirements. We have been a leader in high-tension conveyor terminals for many years and have designed and supplied conveyor systems with up to 15,000 connected horsepower.

Proper drive selection varies depending on many factors including the operating environment, maintenance expertise (hydraulic vs. electrical), and overall power requirements. The goal is to provide a drive package that is controllable and friendly to the system from a starting and load sharing standpoint, thereby protecting the conveyor belt and the many components that make up the conveyor system. Too much stress on the belt or conveyor components can result in extended downtime and lost production. A system that allows a repeatable, linear time ramp during start-up, and can balance load distribution, offers the most protection for your conveyor system.

Our team will work with you to determine the best technology for your application or assist with complete system design.



## Tripper booster drives



Tripper booster drives provide smooth start-up and shutdown operations with full-tension control on extremely long, single-flight conveyors. Tripper booster drives are able to respond to varying load conditions, while maintaining a stable operating system. Tripper booster drive systems are available in two-pulley and four-pulley versions. Custom-designed arrangements are available.

These drives can have a significant impact on reducing downtime and improving productivity.

## Engineered transfer systems

Engineered transfer systems include a discharge section, loading section, and a custom-designed transfer chute that are all designed as one system to effectively transfer material.



## Tail loading sections



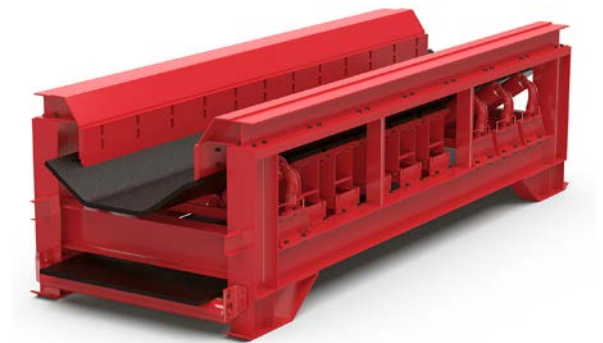
Tail loading sections are designed to withstand the abusive conditions encountered in conveyor loading. Tail loading sections of varying heights are available with a variety of pulley arrangements.

Tail loading sections are available with hinged skirt boards for easier access to skirt rubber and idlers during maintenance. Designs incorporating either rubber disc impact idlers, steel roll idlers, or impact beds are available. A combination of all three can be furnished depending on the application.

## Intermediate loading sections

Intermediate loading sections are used in loading areas along the length of the belt line. Designs incorporating either rubber disc impact idlers, impact beds, or steel roll idlers are available. A combination of all three can be furnished depending on the application.

A variety of skirt board arrangements are available.



### Belt turnovers

Belt turnovers are designed to minimize material buildup on the return side of your conveyor system. By turning your conveyor belt over and allowing the clean side of your belt to contact the return rolls, material clean-up on the return rolls is minimized. This allows for a more efficient operating conveyor system and environmentally friendly operation.



### Hydraulic pumping units

Hydraulic take-up pumping units provide an accurate, reliable system for proper tensioning of your conveyor belt. All units are factory set and tested based on your tension requirements prior to delivery.

This system provides an on/off motor and pump operation as opposed to a continuous operating system, resulting in reduced maintenance, wear, and electrical requirements.

All hydraulic pumping unit components, including the accumulator, are mounted on a common welded-steel, skid-type base. The unit is designed to be compatible with either standard hydraulic, synthetic, or water-in-oil type fire resistant fluids. Our pumping units are available in 25, 40, 60, 75, 100, and 125 horsepower.

Immersion heater element and controls are available for cold-climate operations.



### Controllers provided by Continental Conveyor

We have long been an industry leader with our Smartveyor technology. This technology is made possible through the use of PLC control systems. With controllers for main and tripper drives, the overall conveyor control system is capable of handling complex conveyor systems.

With tried and proven drive packages, our systems are capable of providing extended start/stop times as required by the conveyor system. They can also provide optimal load sharing between the main and multiple tripper drives.

Controllers are custom designed for your specific application.



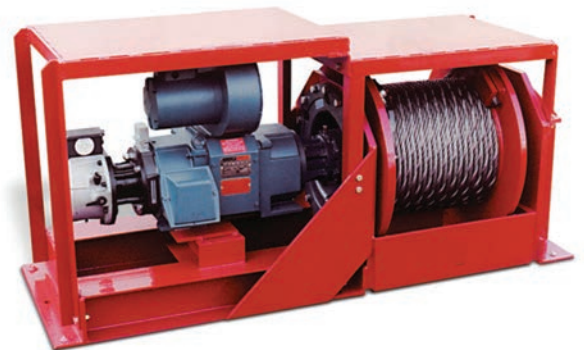
## All-electric constant tension winches

All-electric constant tension winches are an alternative to the traditional sheaved cylinder take-up designs and are our best available option for take-up carriage control in higher tension applications. Properly equipped all-electric winches can maintain precise tension control by achieving full torque of an AC motor with zero shaft RPM. With single, direct line pull ranging from 30,000 lbf – 150,000 lbf, constant tension winch systems are capable of satisfying a wide range of conveyor take-up tension requirements.



## All-electric Pony™ winch

The Pony version of our full-size winch is designed for conveyor systems that require lower take-up tensions. With line pull ranging from 20,000 lbf - 30,000 lbf, Pony winches are designed to provide the efficiency, reliability, and savings of all-electric winch technology, but in a smaller package. The Pony winch utilizes direct line pull to the take-up carriage, so there is no need to grease and maintain sheaves, change hydraulic filters, or replace hydraulic fluids. Plus, the Pony winch makes tension adjustments quick and easy.



## Hydraulic take-ups

Hydraulic cylinder take-up sections are designed to pull slack out of the belt for a smooth conveyor start. The hydraulic take-ups are available in arrangements ranging from 10 feet to 60 feet of travel.

Hydraulic cylinder sizes range from 4" to 12", with take-up belt tensions ranging from 1,000 lbf to 17,000 lbf.



## Gravity take-ups

Gravity take-up systems utilize a counter-weight to achieve proper belt tension. This type of take-up offers an economical, simple, and predictable option for taking slack out of the belt and is a suitable option for many belt conveyor applications.



# HAC™ system

## High angle, high volume productivity

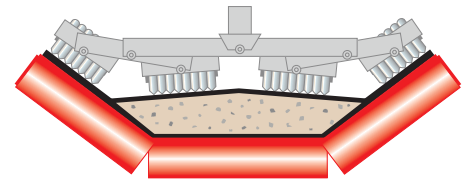
### Proven in a wide variety of applications

Since the early 1980s, the HAC system has proven to be a versatile and money saving method for elevating or lowering materials continuously from one level to another at extremely steep angles.

Over the years, the HAC system has been successfully used in a variety of commercial applications, conveying a wide range of materials. These have included coal, tunnel muck, gravel, wood chips, copper ore, gypsum, slag, excavated silts, sands, clay, grains, refuse, and municipal sludge, among other materials.

The HAC system has taken the sandwich-belt concept, and turned it into a highly reliable materials handling workhorse – the result of specific engineering breakthroughs. One of the secrets to the high performance capabilities of the HAC system technology is its use of pressing mechanisms. The fully-equalized pressing mechanism secures material toward the center of the belt while gently, but effectively, sealing the belt edges together. The HAC system holds the conveyed material continually between the two belts and conforms

to surface shapes without incurring high local forces. Soft, gentle pressure results in the preservation of product quality and longer life for the equipment.



During operation, conveyed material is sealed between the carrying and cover belts. This mitigates the potential for spillage along the conveyor length.



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### The advantage of standard conveyor idlers and rolls

The use of standard conveyor idlers and rolls in the HAC system means greater availability of these replacement components. HAC systems in place around the world have demonstrated high availability and low maintenance costs.

The HAC system is adaptable to multi-module sections using self-contained units, as well as single-run systems. In both cases the conveyor unit may be shortened or lengthened or the conveying angle may be altered according to the requirements of a new location. HAC systems may be mounted on rails, rubber tired or crawler type transporters.

Standard, smooth surface belts allow continuous cleaning by belt scrapers or plows. This is especially important in handling wet and sticky material.

### Versatile, adaptable, and economical

The HAC system is a proven option for a variety of steep angle applications. Contact us for your specific application.





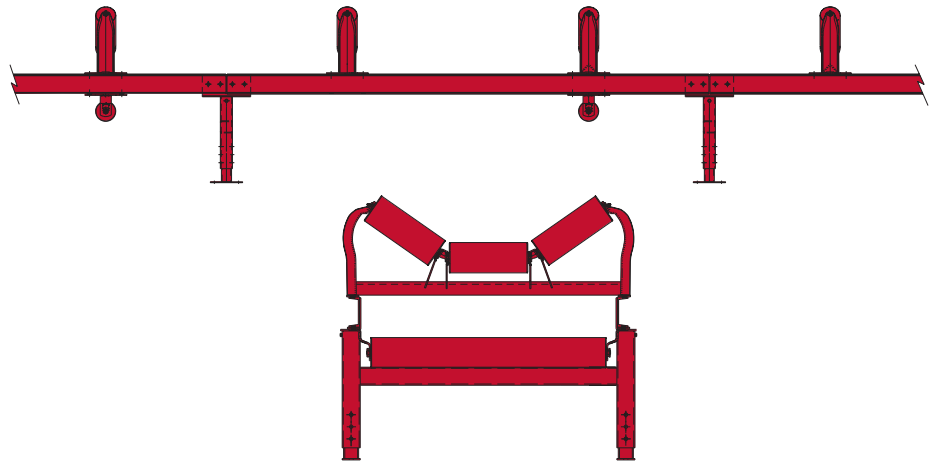
Continental™ idlers and return rolls are available for a wide variety of applications. Additional conveyor components are also available to solve some of the industry's toughest material handling challenges.

## Typical structure arrangements

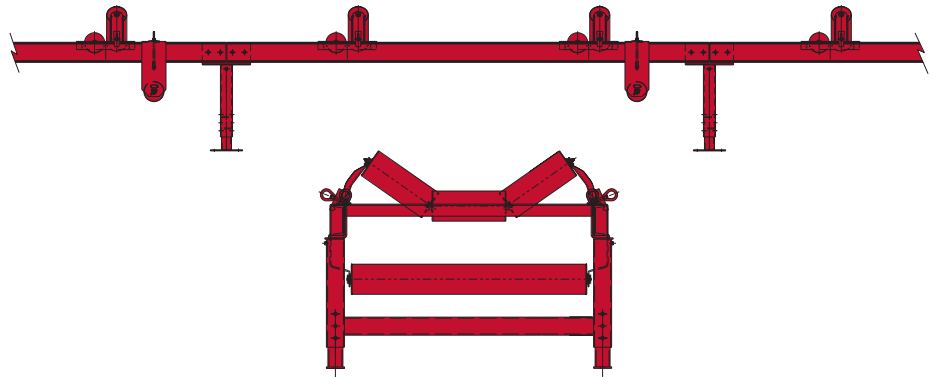
### Mine-duty rigid

Overland conveyor systems are utilized to economically move bulk materials over long distances. Today's overland systems are able to negotiate varied terrain and both horizontal and vertical curves. This makes them a viable option for many materials handling applications when compared to other methods.

Overland structure often provides significant economies in site preparation, costly supporting steel work, and installation.



Mine-duty rigid structure with in-line idlers uses a bolted structural channel side-member support designed to withstand abusive environments encountered in many applications.

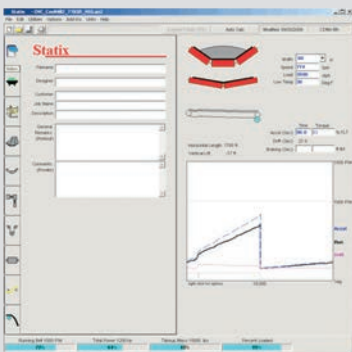


Mine-duty rigid structure with bolted structural channel side-member support is also available with off-set idlers. Boltless construction design is also available.

## Engineering expertise

### Conveyor system simulation software...

We utilize Statix<sup>SM</sup> and Dynamix<sup>SM</sup> proprietary conveyor simulation software to model system behavior under a wide range of loading conditions for both new and existing conveyor systems.



## Impact Bed Assembly

The impact bed assembly is designed to support the conveyor belt and cushion it against the shock of heavy loads and impact in the conveyor loading area. Its modular design allows multiple units to be closely fitted to form the bed length needed. As shown below, the impact bed assembly is also offered with an impact center roll.



Impact bed assembly with impact center roll



Impact bed assembly

## Slide Seal Assembly

The slide seal assembly is a simple and cost-effective way to provide support for the conveyor belt against the skirting material. By utilizing two standard troughing idler frames with center rolls and UHMW/steel support bars with support mounting brackets, this unit is designed to provide a positive seal in the conveyor loading area. For impact loading, refer to impact bed assembly.



Slide seal assembly

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