

Ameridrives

Bibby Turboflex

Boston Gear

Delroyd Worm Gear

Formsprag Clutch

Industrial Clutch

Marland Clutch

Nuttall Gear

Stieber

TB Wood's

Twiflex

**Power
Transmission
Solutions
for
Mining
Conveyors,
Stackers,
and
Reclaimers**



Product Solutions



THE INDUSTRY-LEADING BRAND NAMES OF ALTRA INDUSTRIAL MOTION OFFER POWER TRANSMISSION SOLUTIONS FOR A WIDE VARIETY OF MINING APPLICATIONS

Inclined conveyors use backstops to protect against roll back under load. High speed backstops are used on the enclosed gear drive, and low speed, high torque holdbacks are found as close to the drive pulley/head shaft as possible. For overland or declined conveyors, spring applied caliper brakes are used to limit drift time or to prevent belt run-away in the event of a power failure. Helical and worm gearing solutions are typically used on main drives and, in the case of an inclined conveyor, a high speed backstop may be added. Belted drives and couplings can also be used on the main drive. To prevent catastrophic failure associated with a sudden rise in torque, torque limiters are used.

Demanding applications like stacker/reclaimers require highly reliable brakes, high torque couplings and U-joints, torque limiters, and specialized enclosed gearing solutions. The bucket wheel is driven by an electric motor connected to a helical gear reducer via high speed coupling. The boom is raised and lowered using a hoist, utilizing brakes. The machine moves forward and backward via a set of tracks controlled by electric motors, speed reducers, couplings, and caliper brakes. Speed reducers and couplings are also used on take-away conveyors. The large cooling fan systems often use enclosed helical gearing on the drive, and backstops to prevent reverse rotation.



Couplings and U-Joints by Ameridrives and TB Wood's

G-Flex couplings from TB Wood's feature state-of-the-art design from Bibby Turboflex, the original grid coupling manufacturer. G-Flex is an all-metal coupling that provides positive protection against the damaging effects of shock loads and vibration. Aluminum horizontal cover (T10), and all-steel vertical cover (T20) designs are available. G-Flex tapered grid couplings are an excellent choice where torsional flexibility/vibration damping are primary concerns. Torque up to 169 kNm; 1,500,000 in.lbs.

Amerigear couplings feature fully-crowned gear teeth which provide maximum load-carrying capacity with minimum size, maximum reliability and long life. Both "O" ring and metal seal models are available. Units also feature a strong, rigid floating sleeve, precision-machined identical hubs, and positive dust-tight seals.

Americardan® U-joints are designed for operation at high misalignment angles up to 15°. Bearing and seal design resists lubrication loss and contamination. Ideal for use in severe atmospheric conditions including mines. One-piece, yoke and bearing housing construction. Units provide a high degree of strength with minimum distortion under load. Round bearing and wing style designs are available. Torque up to 4,800 kNm; 42,450,000 in.lbs.



Gearing by Boston Gear, Nuttall Gear and Delroyd Worm Gear

Helical Gearing utilizes Delroyd's exclusive involute helicoid thread form on the worm and gear provides for high efficiencies and long service life. The hardened, ground and polished alloy steel worm develops a smooth, work hardened surface on the bronze gear.

SU High Speed Gear Drive design has been proven through millions of hours of operation with approximately 50% of the nuclear power plants that Westinghouse has built. Available with rigid cast iron or welded steel housing. Units feature dynamically balanced, precision double helical gearing for uniform load distribution and quiet running. Oversized split sleeve bearings provide smooth running.

600 Series helical gear reducers are compact, heavy-duty units available in single, double, and triple reductions. Their high-grade steel gears have received superior heat treatments to ensure the highest efficiency ratings possible. All models feature standard NEMA C-face input flanges for increased adaptability.



Backstops
by Marland Clutch, Formsprag Clutch and Stieber

Model FSO sprag overrunning ball-bearing clutches with a torque range up to 27,000 ft.lbs. These self enclosed clutches contain lip type seals, require no lubrication, and are ready for installation. Increased speed capabilities are possible with the use of steel labyrinth seals.

BCMA Holdback for low speed conveyor head shaft mounting. Provides positive protection against reverse torque runaways of inclined conveyors. Units feature Taconite seals and removable torque arm. Bore ranges up to 600 mm. Torque up to 1626 kNm.

LLH Series (Long Life Holdbacks) are designed for use on conveyor headshafts, bucket elevators, or any other machinery where reverse rotation must be positively prevented. LLH holdback clutches are ready to install. They are equipped with a one-piece, quickly detachable torque arm and grease labyrinth protected oil seals that positively prevent airborne contaminants from reaching internal seals and parts. Oil lubricated, the clutch assembly also includes an oil sight gauge with filter breather for ease in checking lubricant level.



Torque Limiters
by Bibby Turboflex and Boston Gear

Bibbigard safety element torque limiters incorporate a number of safety element modules of a specific size mounted between two flanges and preset to release at a specified torque value in order to protect the drive system from expensive damage and lost production. They can be used with various types of drive mediums. Release torque capacity is virtually unlimited. Torque up to 169 kNm; 38,000 ft.lbs.

- Accurate release torque repeatability
- Simple fast manual re-engagement
- Low-cost maintenance
- Versatile mounting capability

Series CCC (Centric centrifugal overload clutch) features controlled, soft-start acceleration with automatic engagement and disengagement. Delayed engagement produces a “no load start” with no slippage at full running speed. Protects against shock loads during start-up. 100% efficient at rated speed.



Brakes
by Twiflex and Industrial Clutch

LKB Series are spring-set, air-released brakes designed with maximized ventilation for cool-running operation. Units feature long lining life, stable friction coefficients, and lower maintenance costs.

Model GMR/GMR-SD are caliper brakes with a 15-35 kN braking force. Lightweight, modular design.

Model VKSD is a modular disc brake with a braking force of 50-119 kN.



Belted Drive
by TB Wood's

Variable Pitch V-Belt Drives feature cast iron construction with capacities from fractional to over 600 HP.

Classic and Narrow V-Belt Drives are engineered for maximum performance over a long life span. Units are constructed of fine grain, high tensile cast iron.

Synchronous Drives combine the best of both chain and belt drives. Load capacities scale up to 1200 HP at 1750 RPM.



A Global Footprint to Support Customers Around the World

- ★ Altra Headquarters
- Altra Manufacturing Facilities
- Light Manufacturing, Assembly, Regional Warehouse
- ▲ Altra Shared Services and ECB Technology Center

The Brands of Altra Industrial Motion

Couplings

- Ameridrives**
www.ameridrives.com
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- Guardian Couplings**
www.guardiancouplings.com
- Huco**
www.huco.com
- Lamiflex Couplings**
www.lamiflexcouplings.com
- Stromag**
www.stromag.com
- TB Wood's**
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Geared Cam Limit Switches

- Stromag**
www.stromag.com

Electric Clutches & Brakes

- Inertia Dynamics**
www.idicb.com
- Matrix**
www.matrix-international.com
- Stromag**
www.stromag.com
- Warner Electric**
www.warnerelectric.com

Linear Products

- Warner Linear**
www.warnerlinear.com

Engineered Bearing Assemblies

- Kilian**
www.kilianbearings.com

Heavy Duty Clutches & Brakes

- Industrial Clutch**
www.indclutch.com
- Twiflex**
www.twiflex.com
- Stromag**
www.stromag.com
- Svendborg Brakes**
www.svendborg-brakes.com
- Wichita Clutch**
www.wichitaclutch.com

Belted Drives

- TB Wood's**
www.tbwoods.com

Gearing

- Bauer Gear Motor**
www.bauergears.com
- Boston Gear**
www.bostongear.com
- Delroyd Worm Gear**
www.delroyd.com
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Overrunning Clutches

- Formsprag Clutch**
www.formsprag.com
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- Stieber**
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