

Pushing Forward with Belts and Chains

The technology continues to evolve in chain- and belt-driven systems

Alex Cannella, Associate Editor

Orbitless Drives Epicyclic Chain/Belt Drive First Ever Epicyclic Chain- or Belt-Driven Solution

Orbitless Drives Inc. announced another innovation in the area of high performance gears with the introduction of the Orbitless Chain/Belt Drive, the first ever epicyclic chain or belt driven solution. Conventional planetary drives cannot use chains or belts because a sprocket or pulley cannot have internal teeth like a ring gear. The Orbitless Drive dispenses with the ring gear to marry the unique benefits of chains and belts with an epicyclic drive arrangement.

The Orbitless Chain/Belt Drive has co-axial drive shafts, high torque capacity due to load sharing, and very high, positive or negative speed ratios. The speed ratio can be as high as the number of teeth in the sprocket/pulley and as low as zero for an infinitely variable transmission if fitted with a progressive, variable pulley system. This drive easily supports ratios up to 50:1 or more in a single stage.

Multiple planets mean higher accuracy and less flexibility than a conventional zero-backlash timing belt system, with improved compactness due to co-axial drive shafts. It



promises great potential in the high-precision motion control industry where high ratios, zero backlash and low cost are essential.

This inline single stage design can be configured for small-scale precision gear trains with plastic pulleys and belts, right up to large-scale industrial applications with high torque loads.

Orbitless offers design support services and license programs to enable your application engineers to design and build the ultimate Orbitless solution for your unique applications.

For more information:

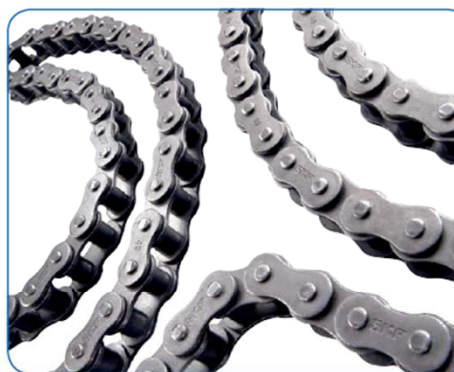
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SKF Belts and Chains Portfolio Deliver Efficient and Reliable Power Transmission Solutions

SKF offers a comprehensive range of standard, high-performance belts ideally engineered to deliver efficient and reliable power transmission in drive-system applications across industries. All SKF belts benefit from innovative materials, designs and manufacturing to accommodate the most demanding working loads, provide extended service life and transmit power effectively from one component to another.

The extensive line of SKF belts joins a growing portfolio of power transmission products delivering optimized performance for equipment in the mining, automation, material handling, oil and gas processing, steel and food and beverage industries, among many others.

The standard SKF product line includes V-belts in a variety of constructions (wrapped classical, wrapped narrow wedge, cogged raw edge classical, narrow wedge and Xtra power wedge) and timing (or synchronous) belts with classical, HITD or metric constructions. Timing belts uniquely integrate durable teeth enabling full engagement with pulley sprocket grooves to prevent potential slip and enhance accuracy and speed. All belts can be specified in various lengths and dimensions with speed ratios and power ratings



consistent with application requirements.

SKF belts install easily and are equipped to sustain proper tension, maximize rigidity and minimize potential stretch. Versions can be specified to handle especially high dynamic loads without compromising flexibility or generating excessive heat.

Designs can be optimized with the SKF belt drive calculation program to develop the most efficient and economical solution for a particular application.

SKF has also introduced an extensive range of roller and engineered chain solutions ideally suited to meet the demanding requirements of power transmission and conveyor applications in the food and beverage, mining and cement, and steel industries, among many others. The chains join a growing portfolio of SKF power transmission products offering optimized performance and long service life.

Standard SKF transmission, or roller, chains (pitch sizes .25 in. to 3 in.) feature through-hardened, shot-peened and ball-burnished inner and outer link plates with wide waist; case-hardened precision-ground pins; precision cold-rolled bushings; and through-hardened, shot-peened solid rollers. These features ultimately provide increased fatigue strength, higher resistance to damage from shock loads, maximum wear resistance and extended service life.

SKF chains can perform reliably in temperatures from -4° F to 300° F (stainless steel versions in temperatures from -4° F to 750° F) and can be supplied with rivet or cottered design. All comply with the appropriate ANSI, ISO, or DIN standard and are pre-stressed, run-in, and manufactured according to strict quality control. Non-stainless types are pre-lubricated.

Among other options, stainless steel chains offer corrosion-resistant solutions for food-grade applications, nickel or zinc coatings can add protection to carbon steel variants and a wide variety of attachment chains are available.

Custom-designed solutions, supported by more than 100 years of SKF power transmission industry knowledge, can be developed to satisfy particular demands.

For more information:

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Dorris Gear Drives TR Product Line Tapered Bushing Easy to Install and Remove

The TR Product Line offers eight standard ratios from 5:1 to 40:1. The quick release tapered bushing is easier to install and remove than any comparable bushing system. Dorris offers a total quality management system that assures excellence from customer contact to delivery. They offer a two-year warranty and everything is American made.

The Dorris TR Design has a narrow "thru-the-bore" dimension, a bushing design that mounts from the open (motor) side, and requires a drive shaft that only needs to extend partially through the gear drive. With these features, the TR Design only requires approximately half the driven shaft length of its leading competitors.

The quick release tapered bushing is easier to install and remove than any comparable bushing system. This is because the flexible sleeve and threaded collar conforms to the driven shaft with greater gripping power. It is designed to avoid crevice or fretting corrosion, localized welding, binding and many of the problems that exist in other bushing designs.

Dorris's 30:1, 35:1 and 40:1 ratios allow for many new options in selecting a drive system. Among these are lower output speeds; higher speed, lower cost motors; smaller, less

expensive sheaves and enough ratios within the gear drive to directly couple to a C-Face Motor. The 415 and 507 offer triple reduction ratios to 250:1 and 200:1 respectively, as well as double reduction gearing.

Dorris also offers the TL Product Line, which conform to the highest industry standard for screw conveyor drives and components. All drives and components conform to CEMA standards. The TL Series consists of a component gear drive, drive shaft kit and trough end adaptor. The 107-407 TL series offers eight standard ratios from 5:1-40:1. CEMA Standard Drive Shafts have two and three bolt configurations.

The TL Gear Drive is equal to the TR Gear Drive, adding a gear drive adaptor and removing the torque arm assembly.

The trough end adaptor kit contains a removable shaft, locknut, lock washer and key. TL drive shafts have a tapered output end to avoid binding. The kit also contains the trough end adaptor and packing gland assembly. Dorris trough ends are available. A TR/TL Conversion Kit, along with a drive shaft kit and trough end adaptor kit is required to convert a TR to a TL.

The TL Drive Shaft kit contains a removable shaft, locknut,

