Product Line-up

Products to Match Your Needs

From power transmission to material handling.

The Tsubaki group provides market leading solutions through advanced engineering practices and personalized product services.

Chain
- Drive Chain
- Small Size Conveyor Chain
- Large Size Conveyor Chain
- Top Chain
- Sprockets
- Cable/Hose Protection Systems
- Timing Belts and Pulleys

Power Transmission Equipment
- Cam Clutches
- Linear Actuators
- Fasteners
- Couplings
- Overload Protection Units
- POWER-LOCKS®

Material Handling
- Distribution Systems
- Pharmaceutical Systems
- Newspaper Printing Systems
- Other Conveyance, Sorting, and Storage Systems
- Modular Conveyors
- Bulk Handling Systems
- Metalworking Chip and Coolant Processing Conveyors

Linisort®

Conveyor System for Automobile Painting Lines

Coolant/Metalworking Chip Conveyor

Power Cylinders

Cam Clutches

ONE-TOUCH INSPECTION DOORS®
Tsubaki Group Products and Network

The Tsubaki Group’s extensive network of production and sales facilities support our customers’ businesses in real time around the world.

**Tsubaki Global Network**

Japanese production and sales facilities include:
- Kyotanabe Plant
- Saitama Plant
- Kyoto Plant
- Hyogo Plant
- Okayama Plant
- Tsubaki Mayfran Plant

North & South American production and sales facilities include:
- U.S. Tsubaki Power Transmission, LLC
- U.S. Tsubaki Automotive, LLC
- Tsubaki Brazil
- Tsubaki of Canada Limited

Asia & Oceania production and sales facilities include:
- Taiwan Tsubakimoto Co.
- Tsubakimoto Singapore Pte. Ltd.
- Tsubakimoto Automotive (Thailand) Co., Ltd.
- Tsubakimoto Automotive (Shanghai) Co., Ltd.
- Tsubakimoto Chain (Tianjin) Co., Ltd.

Europe production and sales facilities include:
- Tsubakimoto Europe B.V.
- Tsubaki Kabelschlepp GmbH
- Tsubakimoto Chain (Tianjin) Co., Ltd.
Making steel is a complex process. You’ll find Tsubaki products used throughout the steel mill, from offloading iron ore and coal from freighters to shipping coil steel products. Since 1917, Tsubaki has been using its accumulated know-how, quality, and technical expertise to help steelmakers and equipment manufacturers build the world.
Continuous Unloaders

An unloader uses a bucket to unload coal, iron ore, and other loose material from a freighter. A continuous unloader can unload more efficiently and in less time, equating to much lower landing costs.

Chain Scraper Reclaimers

A chain scraper reclaimer moves ore and other materials stored in stockpiles to a conveyor that transports the material to the next stage of the production process.

Bucket Wheel Reclaimers

Bucket wheel reclaimers feature buckets attached to a wheel at the end of a boom. The wheel rotates and feeds material from the stockpile to the next process.
Steel Cable Carrier Systems

Tsubaki's patented sprocket wear indicator technology offers users the ability to identify and schedule drive system maintenance before critical component failure occurs.

Backstop Cam Clutches

Tsubaki’s Backstop Cam Clutch products use a non-rollover design. The load distribution is among multiple cams and a large surface cross section, so even if an unexpectedly large reverse torque occurs, the clutches will not roll over. This will prevent the conveyor from reversing.

Steel Cable Carrier Systems

Steel Cableveyor® has excellent strength and heat resistance. Stainless steel and side mount specifications are also available. We also offer an extensive line-up of tube type Cableveyors for added cable/hose protection.

Unloader Chains and Sprockets

Unique technology gives Tsubaki Unloader Chain its superb endurance and proven track record. We also offer various specifications and series to match the needs of the conveyed items. Unloader sprockets are optimized for use with unloader chains. We specially harden them for extremely effective wear resistance.

Wear Indicator Sprockets

Tsubaki’s patented sprocket wear indicator technology offers users the ability to identify and schedule drive system maintenance before critical component failure occurs.

Helical Reducers

Highly reliable Tsubaki Helical Power Drive reducers are often used in crane travel and swiveling sections.
Tsubaki Heavy Duty Roller Chains provide proven performance. The optimal material and perfect heat treatment give Tsubaki Heavy Duty Roller Chains unparalleled tensile strength and shock resistance.

Power-Locks are friction-type fastening devices that simply and securely fasten to shafts and bosses eliminating the opportunity for backlash. You will find just the right type for your needs with our extensive line-up and range of sizes.

These are flexible couplings made with two solid coupling tailored roller chains wrapped around two sprockets. Used in standard drive situations.

When abrasive material infiltrates between bushes and rollers, chain wear significantly accelerates. Utilizing Tsubaki’s patented dust resistant bearing rollers and our 513 seals, you can significantly extend the life of your reclaimer chains.
In the sintering process, powdered iron ore, which makes up the majority of imported iron ore, is fused to create sintered ore.

**Sintering Plant**

**Blast Furnace**
Here, iron is created from iron ore. Iron ore and coke are alternately charged in the furnace from the top, while hot air is pumped in from below. The CO2 generated from the burning coke reduces the iron ore to iron. Temperatures inside the furnace can reach 2000°C. The melted iron (hot metal) is removed from beneath the furnace.

**Coking Plant**
Coal in the furnace is distilled to manufacture coke. Iron is extracted by reducing iron ore in the presence of carbon, which also becomes a source of heat for melting ore and limestone.
Tsubaki's standard RS Roller Chain G7-EX uses a seamless solid bush developed by Tsubaki. The special lube grooves* in our high precision solid bushes retain lubrication longer for twice the chain wear life.

* Lube grooves available for RS80 – RS140 only.

We ensure that our Tsubaki roller chain sprockets have a deep hardened layer over the entire sprocket – even the tooth bottoms. This ensures superb wear life for tooth bottoms and long life for the sprocket. We offer an extensive line-up of sprockets with a wide-ranging number of teeth, rows, and shapes, as well as finished bore sprockets and bore fasteners.

Tsubaki Power Cylinders are electric cylinders that can operate with just simple wiring. With no troublesome hydraulic or pneumatic pipes to worry about, maintenance is a snap. Standardized operation for small to large thrust forces, diverse options, and various built-in overload safety devices give our users peace of mind. Highly efficient ball screws provide long service life even under high speed/high frequency use.

Hybrid cable carrier systems (sideband made of plastic and stays made of aluminum) are available in 1mm width increments to perfectly fit the available mounting space. When operating on crane systems, the carriers run safely in guide channels made of steel sheet metal which are custom-made for any application. In doing so, we can accommodate almost any request for special shapes and fastening options.
Converter

Here, the hot metal from the blast furnace is reduced to form molten steel. The hot metal contains carbon, silicon, phosphorus, and many other impurities, so it is transferred to the converter, where oxygen is blown in from above and below to oxidize and remove the impurities. This allows the required optimal components to be adjusted to make steel.

Continuous Casting

Here, the molten steel reduced in the converter is hardened and shaped into billets. The molten steel taken from the converter is continuously poured from the ladle into a mold below and cooled. The cooled, hardened steel is cut to specific lengths and carried to the rolling process to be shaped.
The T Series Power Cylinder is a heavy thrust type power cylinder that uses AC power. Tsubaki offers a wide range of models to match any application, thrust, or speed. Thrust ranges from 2.45 to 313kN (250 to 32000kgf), with a maximum stroke of 2000mm. All models use a braked motor for reliable load support and safety. Heat resistant and other special braked motors can be easily installed for high temperature environments.

This chain returns dummy bars used in continuous casting to their original position. The attachments are individually designed to match the customer’s dummy bars. The plates and the part of the attachment that engages the dummy bar are quench hardened for added strength.

TKV Series Cableveyors have a maximum stroke of 30m (100m for the TKI Series). The maximum travel speed of the TKV Series is 150m/min, and TKI Series 120m/min, so they are usable in high frequency, high speed, and long travel stroke ranges where previous steel Cableveyors were not.

The optimized geometry of S/SX 1252B and S/SX 1802B reliably prevent costly downtimes and maintenance breaks for the entire system – especially in environments, where large amounts of very fine, abrasive media are generated. Foreign bodies entering into the system are removed from the stroke system by the self-cleaning effect of the cable carrier in motion.
Hot Rolling

Here, slabs are pulled to make steel strips. The slabs are reheated to 1250°C and rolled while hot. The rolled strip steel is then wound up like a roll of toilet paper (called a “hot coil”).

Cold Rolling

Here, hot coils are rolled to a usable thickness at room temperature. Coils rolled even thinner during this process are called cold rolled coils.

Pickling

The surface scale (iron oxide) formed on hot coils in the hot rolling process are washed off (“pickled”) using hydrochloric acid.

Zinc Plating

Here, iron is dipped into and coated with molten zinc.
Chains used to convey slabs, billets, and other semi-finished products have to be designed in light of the product’s shape and temperature, as well as the conveying environment. Let Tsubaki’s extensive track record help find the right specifications for you.

- NEP Series Roller Chain

Lines subjected to cold water sprays have problems with corrosion. With NEP Series, the pins, bushes, and plates have a unique triple layer coating, and the rollers are also specially coated, for added corrosion resistance. NEP Chain does not use hexavalent chromium, cadmium, mercury, or arsenic and so is RoHS compliant.

- Covered Cable Carrier Systems

Covered or closed steel cable carrier systems should be used for applications where hot chips or severe contamination occur. The cover system also protects the layered cables against short-term radiant heat impact. Available as covered types with the robust Covered system RMD or economically priced, light covered types (steel band cover) for flying sparks and small chips.

- Overrunning Cam Clutches

Overrunning Cam Clutches spin freely the majority of the time, occasionally being called upon to lock up and drive. In a two-speed drive, when the gearmotor drives at low speed, the clutch engages and when the faster electric motor drives, the clutch overruns switching between low and high speeds.
The shape and thickness of heavy duty roller chain link plates are larger, allowing for more compact designs, excellent kilowatt ratings, and higher allowable load and tensile strength.

SUPER Chain
We’ve adjusted the size of the plate waist to give the chain 30% greater maximum allowable load over standard Roller Chain.

RS-HT Chain
By increasing the thickness of the plate, we’ve increased this chain’s tensile strength by 20% over standard roller chain over standard Roller Chain.

SUPER H Chain
SUPER H Chain has the same shape as SUPER Chain, but with a thicker plate. Ideal for applications requiring a higher allowable load, tensile strength, and shock absorption.

ULTRA SUPER Chain
The plates are oval and thicker than SUPER H Chain plates for the highest level of allowable load, tensile strength, and shock absorption for more compact designs.

Worm Reducers

Troi Drive® Worm Power Drive®
Rolling mills use Troi Drives, drum shaped gears that have a high load capacity.
Coil Conveyor

A coil conveyor runs between the equipment upstream and downstream of the hot rolling, pickling, and cold rolling lines, the temporary storage area for coils needing production adjustment, and between various other lines. The conveyor must operate efficiently to meet production schedules.

Ceiling Crane

Ceiling cranes can hoist, move laterally, and more backwards and forwards. They provide reliable performance in a wide range of work areas, and are often used in conveying coils in the storage yard, product shipping yard, and so on.

Pallet Car

There are many coil transfer systems in the coil storage yard and shipping yard.
Coil Conveyor Chain

Coil Conveyor Chains use our unique bearing rollers to reduce running resistance. (Coefficient of friction = 0.03)
The roller is also designed to be extremely resistant to cracking, and we manufacture the saddle to match your conveyor design.

Bearing Roller Conveyor Chain

A unique Tsubaki roller that features cylindrical bearings inside the roller itself. Our line-up includes dust-resistant, water-resistant, and lube-free series chains.

Shuffle Conveyor

Shuffle Conveyors are a new type of conveyor that use a repeat back-and-forth motion to convey material. Unlike vibrating conveyors, Shuffle Conveyors are quiet during operation, and their simple construction makes maintenance easy. And unlike belt conveyors there is no way for conveyed goods to be returned.

Overrunning Cam Clutches

Overrunning Cam Clutches spin freely the majority of the time, occasionally being called upon to lock up and drive. In a two-speed drive, when the gearmotor drives at low speed, the clutch engages and when the faster electric motor drives, the clutch overruns switching between low and high speeds.
Long span specifications are a way of achieving longer travel strokes by having the Cableveyor glide on a guide rail. While normally this would cause wear on the tops and bottoms of the links, attaching glide shoes enables longer wear life, less energy required, and reduced running costs. For very long travel lengths up to 200 m and over we also offer plastic cable carriers. Replaceable glide shoes made of a special, highly abrasion-resistant material with low friction coefficients increase the service life of the cable carrier systems many times over. For additional cable protection, covered types are available as well.

Longer lifetime: 3.1 million cycles tested with highly abrasion-resistant glide shoes.
Other Solutions to Your Problems

**Patented SJ3 Technology**
Tsubaki's patented triple seal SJ3 technology provides superior protection for your most demanding operations.

**ONE-TOUCH DOORS®**
ONE-TOUCH INSPECTION DOOR® allows for quick and simple inspection without the need for special tools: No bolts to loosen and no covers.

**Miter Gear Box**
Distributes power laterally and across multiple shafts. Functions as a line shaft drive.

**Lini Power® Jack**
A direct linear actuator (jack) that combines a trapezoidal or ball screw with a worm gear.

**Tsubaki Lambda® Chain**
Lambda Chain uses special oil-impregnated bushes for lube-free operation.

**Dust Filtration Equipment Chain**
The right combination of materials allows us to provide the ideal chain to meet your needs.

**BS Series Cam Clutch**
Tsubaki BS (Backstop) series are engineered specifically for industrial conveyor and elevator applications.

**Other Solutions to Your Problems**

- Tsubaki's patented sprocket wear indicator technology offers users the ability to identify and schedule drive system maintenance before critical component failure occurs.
- Extended chain life through predictable maintenance. Eliminates the guesswork associated with worn sprockets.

- racer’s direct linear actuator (jack) that combines a trapezoidal or ball screw with a worm gear.
Let Tsubaki’s Eco Products help you reduce energy costs and increase your bottom line

As a mechanical part and equipment manufacturer, the Tsubaki Group is working to develop environmentally-friendly products to reduce our environmental load ("ecology") and increase your bottom line ("economy").

Our Eco & Eco (Economy & Ecology) philosophy is to reduce our environmental load while giving our customers cost incentives and other measures to help their bottom line by providing them with environmentally friendly products.

By using Tsubaki’s eco-friendly Eco Products, you can reduce your environmental load, improve working conditions, and increase efficiency and quality. And by incorporating Tsubaki Eco Products into your products, you can increase your own business opportunities by providing environmentally conscious products.

**Eco & Eco Benefits for the Customer**

By using Tsubaki Eco Products, you can:

- Reduce your environmental load
- Increase working conditions
- Improve efficiency and quality
- Increase business opportunities

Use Tsubaki Eco Products to:

- Bring procurement cost incentives to your customers by simplifying your products
- Reduce running costs by providing a longer running life, lube-free operation, etc.
- Promote recycling and reduce disposal costs

**Tsubaki Group Eco & Eco**

Our Eco & Eco (Economy & Ecology) philosophy is to reduce our environmental load while giving our customers cost incentives and other measures to help their bottom line by providing them with environmentally friendly products.

**Tsubaki Group Environmental Activities**

A major goal of the Tsubaki Group is to expand our line-up of eco-friendly products to serve as the cornerstone of eco-friendly operations. We are working hard to improve our products’ performance to give them longer life and increased power in your operations, which will help reduce waste.

**Points in developing Eco Products**

1. Pursue eco-friendly designs and reduce the environmental load of procured items.
2. Introduce LCA methodology and make our environmental approach logical.
3. Contribute to society through business activities grounded in Eco Products.

**Examples of Tsubaki Eco Products**

- **Power Cylinders**
  - Power cylinder reduces power consumed by 1/5 the power of hydraulic cylinders, 1/6 of pneumatic cylinders.
  - Contains no harmful chemicals.
  - Using Power Cylinders opens up new markets for your products as eco-friendly products.

- **Bearing Roller Conveyor Chain**
  - Over three times the bush – roller wear life
  - Longer life means less maintenance and lower running costs.
  - Coefficient of friction is reduced by 1/3, greatly reducing the required power and allowing for a chain two sizes smaller to be selected.
  - Greatly reduced CO2 emissions thanks to lower required power.

**Eco Points**

We have divided our environmental activities into seven categories, which are reflected in the design and development of Eco Products:

- Uses fewer resources, reduces waste
- Contributes to a clean workplace/usage environment
- Easily disposable
- Contains no harmful chemicals
- Reduces energy consumption and CO2 emissions
- Contributes to the surrounding environment
- Reusable

**Comparison Conditions**

- Pneumatic: Stroke: 300mm
  - Speed: 200mm/s
  - 1 cycle/min. x 12hrs/day x 250 days/yr.   Includes other drives (servo motor, hydraulic/pneumatic units)
- Hydraulic: Stroke: 300mm
  - Speed: 200mm/s
  - 1 cycle/min. x 12hrs/day x 250 days/yr.   Includes other drives (servo motor, hydraulic/pneumatic units)

**Comparison Evaluation Results**

- **Power Cylinder LCA Evaluation**
  - Comparison results by Shinko Research Co.
  - CO2 Emissions: annual CO2 emissions (kg of CO2/year)

- **Comparison with Other Drives**
  - Pneumatic: CO2 emissions during operation
    - VS. hydraulic cylinders
    - Pneumatic: 6.4x
    - Hydraulic: 5.4x
  - Pneumatic: CO2 emissions during manufacture
    - VS. hydraulic cylinders
    - Pneumatic: 4.6x
    - Hydraulic: 3.8x

**Eco & Eco Benefits for the Customer**

- Bring procurement cost incentives to your customers by simplifying your products
- Reduce running costs by providing a longer running life, lube-free operation, etc.
- Promote recycling and reduce disposal costs.