



SANKYO
AUTOMATION



Precision. Quality. Reliability.

PRODUCT GUIDE

RollerDrive[®]

SANDEX[®]

Variax[®]

Machine Tool Accessories



About Sankyo Automation

Sankyo Automation has been a worldwide leader in cam-driven indexing technology, and continues to develop new and innovative technology in motion control.

The high quality of Sankyo products is a direct result of innovative design, strict process control and a continual effort to strive for improvement. These attitudes and technology are managed from our 30,000 square foot manufacturing facility located near Sidney, OH. This location serves as the sales, service and manufacturing base for our products. We supply product for markets throughout North America and Europe, as well as Central and South America.

Our parent company Sankyo Seisakusho Co. of Japan is the world leader in precision cam and cam driven devices. They continue to provide innovation and research, so Sankyo Automation can thrive in a vast ever-changing technological industry.

Sankyo Automation is committed to developing new values by providing our customers with manufacturing solutions capable of meeting the rapidly changing market.

American Plant Established 1987



Products Offered

RollerDrive[®]

RollerDrive Servo Rotary Tables

SANDEX[®]

Cam Rotary Indexing Drives
Rotary and Linear Pick and Place Units
Walking Beams
Linear and Rotary Assembly Chassis
Precision Link Conveyors
Torque Limiters
Vibrating Parts Feeders

Variax[®]

Precision High-Speed Press Gripper Feeds
High-Speed Servo Roll Feeds
Loop Controller for Coil Fed Presses

Machine Tools

Machine Tool Rotary Tables
Automatic Tool Changers for Machine Tools
Automatic Pallet Changers for Machine Tools
Indexing Tool Turret for NC Lathes

Sankyo Automation continues to embrace the manufacturing industry with greater accuracy, speed and efficiency in each product to help boost productivity.

RollerDrive®

Roller Drive® Technology Differentiates Factory Automation Equipment and Boosts Productivity

The Roller Drive is a high-performance positioning unit based on a roller gear cam mechanism. Instead of transmitting power through intermeshed gear teeth, the Roller Drive transmits power through rolling contact between the cam and roller followers.

This allows the followers to be preloaded, which completely removes backlash while efficiently transmitting power and extending machine life.

Additionally, the output holds rigidly against external forces, unlike a conventional gear reducer. It is ideal as a precision positioning table, as the rotary axis in a machining center, or as a robot joint.

Actual applications serve many high-tech industries including:

- Edge polisher for LCD glass substrates
- Handling robot for large glass substrates
- Positioner for automotive welding robots
- Automatic tracking positioner for solar power panels
- LED sorting machines

Major machine tool manufacturers have also adopted the Roller Drive for their precision positioning tables.

■ Input Commanded Motion



■ Motion Distorted by Backlash



■ RollerDrive Motion



RollerDrive



AR Series

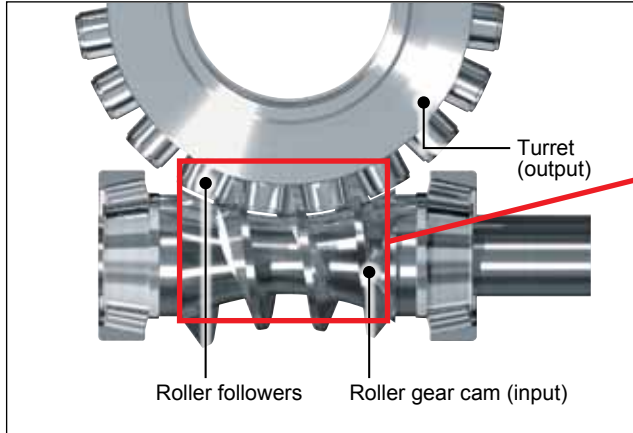
Programmable output motions, affordable solution for most applications, multiple ratios fit most applications, stationary output bore.



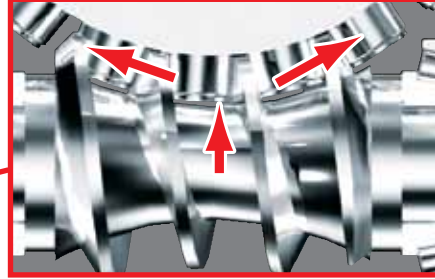
RU Series

High-end model packed with advanced RollerDrive technology. Compatible with various servo motor makes.

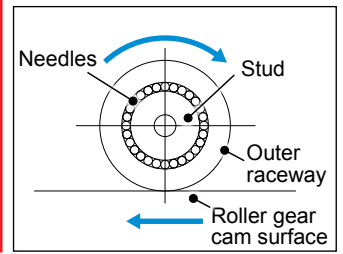
Exclusive Zero Backlash Structure



Preload mechanism



Internal Construction of the Roller Follower



Features

Rolling contact

Preload

- No backlash.
- Power transferred by rolling contact eliminates wear.
- High accuracy and good efficiency.
- Preloadable for high rigidity.

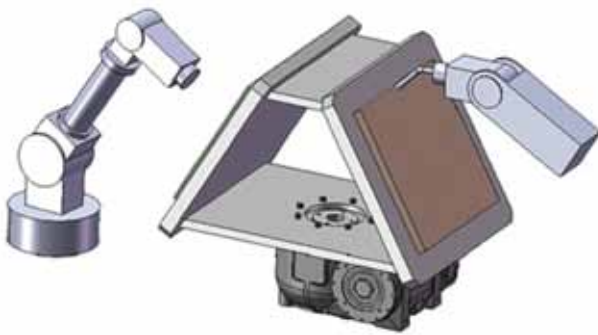
RollerDrive Application Examples



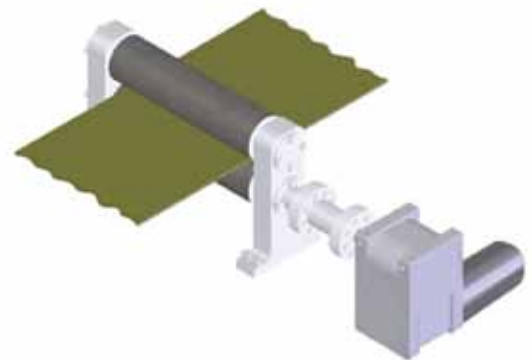
Dial Indexing Table



Oscillating Arm



Welding Table



Precision Feeding

SANDEX®

Faster. More Reliable. Positioning Using Cam Technology

The Sandex series of indexers are based on the roller gear cam mechanism, a simple combination of a globoidal cam and cam followers. The profile of the cam and the rolling contact surfaces of the cam followers allow unrestricted development of various motions.

Sankyo began researching and developing the roller gear cam mechanism in 1970, when it launched the first Sandex indexer. The Sandex offers greater speed, rigidity, output torque, and has no backlash, unlike other mechanisms. Customers continue to choose Sandex when they need a dependable rotary positioning device.

Sandex indexers are core components in productivity-oriented automated machinery. They come in various sizes and motions, from the world's smallest compact type to large over-sized types. Our mainstream drives either index or oscillate, but the same motion control principle drives our other products as well, such as our Pick and Place Units and Parts Handlers, which combine linear and vertical motions; and our Torque Limiter, which safely disconnects torque in the event of overloads.

Sankyo's core technology is used in machines that produce some of the world's most sophisticated products, such as a 600-parts-per-minute LED conveying machine.



SANDEX



BH Series

Sankyo base machines. Synchronized indexing, pick & place, and press module motion.



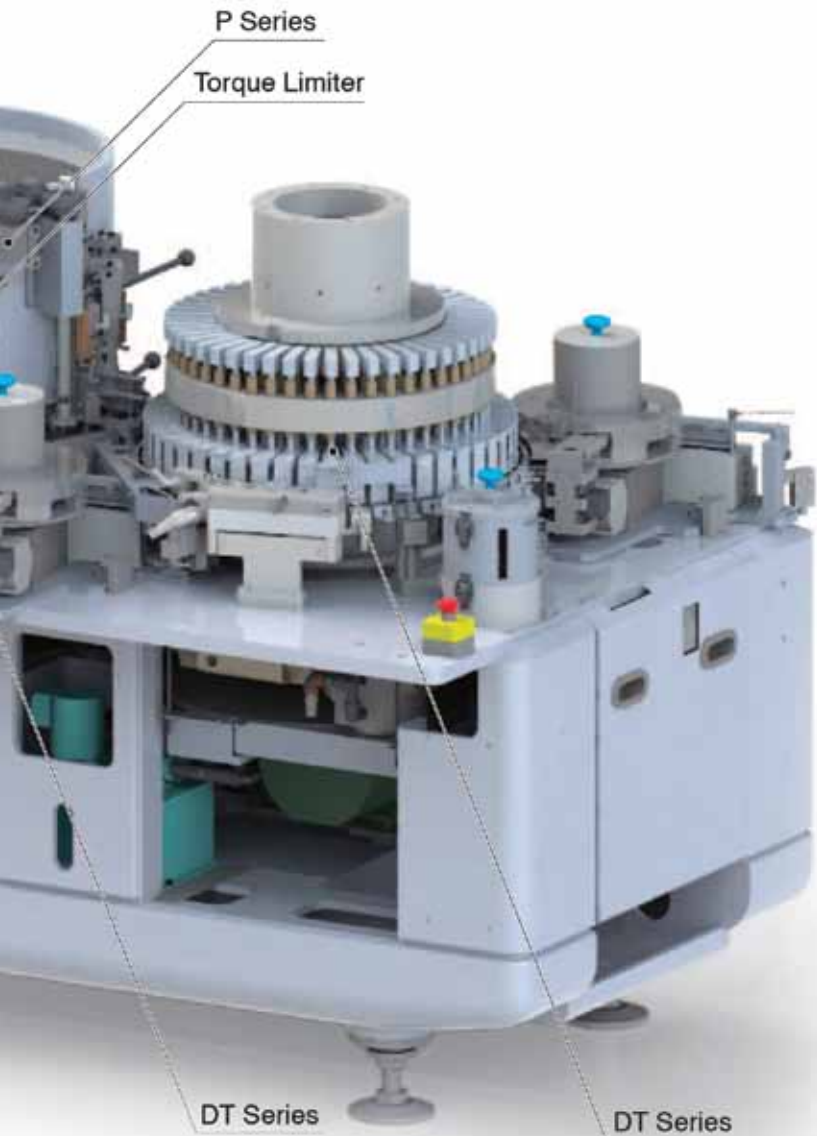
Precision Link

Precision link conveyor inline chassis. Over/under or carousel setup.



D/DF Series

Basic model for Sandex products. Output shaft model offers affordability and performance.



Oscillate Handler

Cam driven pick and place unit combines vertical and intermittent rotary index or oscillate motions. Ideal for two-dimensional positioning, such as crimping and part inserting.



Parts handler

Cam driven pick and place unit performs handling tasks through a two-dimensional vertical/linear motion.



Center column

Indexer for driving rotary base machines. Coaxial output features an index, continuous, and fixed table output.



Torque limiter

Mechanical overload protection device. Features easy torque control and precision trip/reset mechanism.



CD/ED Series

High speed flange or shaft output. Option for ecological clean room applications.



FN/GY Series

Solid cam driven motion. Two-dimension movement of rotation & lift, or linear pick & place.



AD Series

All-in-one model with drive package. Affordable with a geared motor premounted on a low-profile housing.



P Series

Parallel input and output shafts ideal for driving conveyors and other applications.

Machine Tools

Providing Rotary Technology To Meet Various Solutions

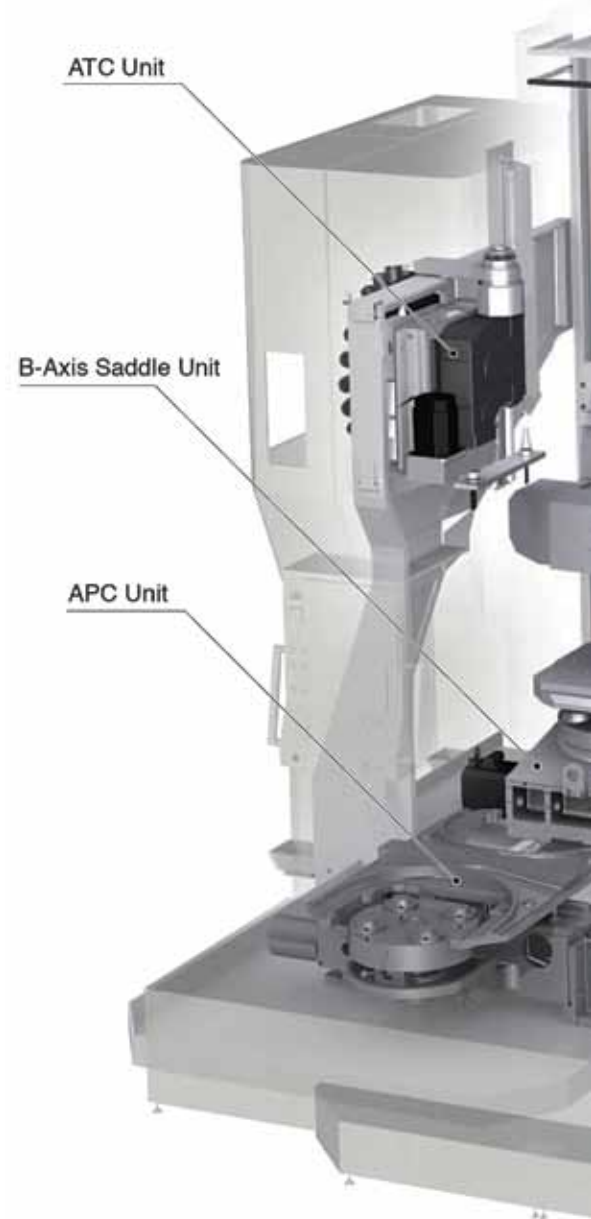
Sankyo serves the machine tool industry with products based on the Sandex and RollerDrive products. Our major machine tool products include rotary tables, automatic tool changers, and indexable tool posts. Each product contributes to the machine tool's performance by adding functionality, reducing cycle times, and improving machining quality.

The rotary table features a solid piece cross-roller bearing and output shaft that machine tool manufacturers like because it delivers runout-free rotation, high rigidity, zero backlash, precision dynamic rotary indexing, and clamp-free position holding. Roller Drive technology eliminates backlash and holds positions without clamping. The table supports both high-speed cutting and continuous heavy cutting with sustainable quality and accuracy, while saving energy by eliminating hydraulic clamping support.

We also offer a rotary table with a second tilt axis that gives 5-axis machining functionality to existing machining centers.

Another machine tool product is our mechanical tool changer, designed to dramatically reduce tool change times and energy usage.

Sankyo also provides products for existing equipment to help customers gain performance from their current facilities.



CNC ROTARY TABLE



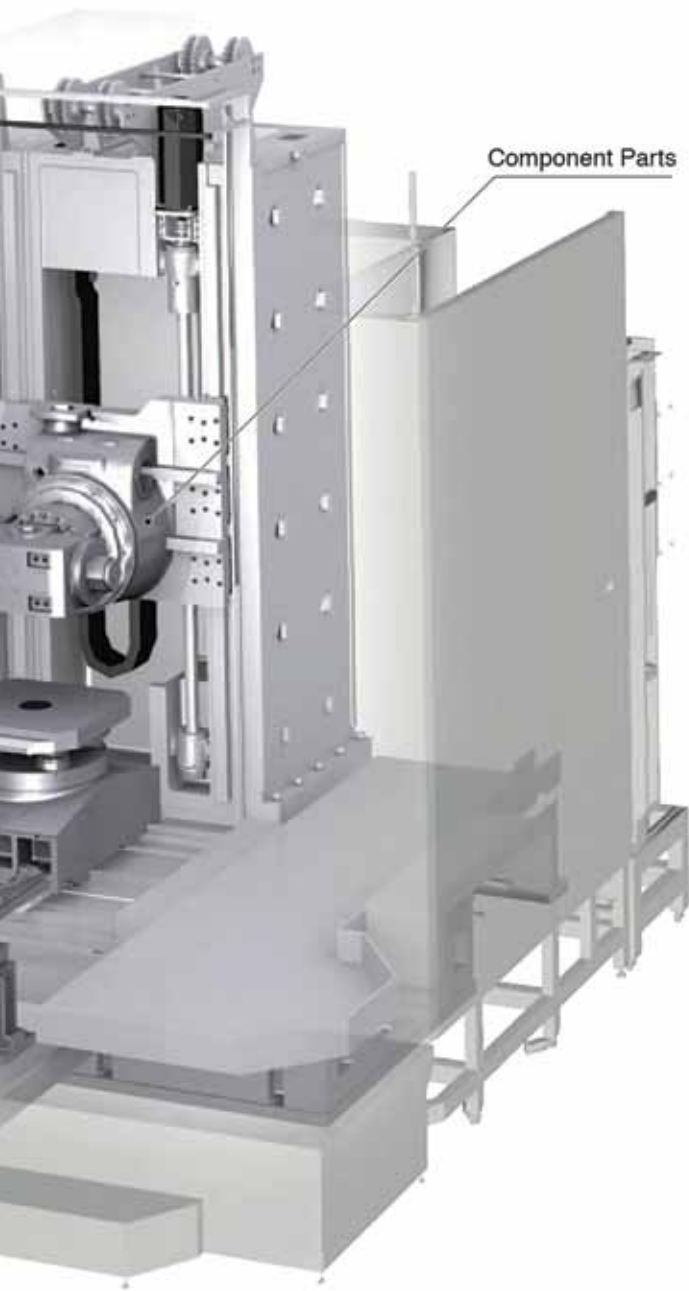
RCC Series

Offers robustness with the versatility to be mounted and used vertically or horizontally. Offering options for internal or external rotary joints and hydraulic clamping.



RS Series

Offers a combination of compactness with high torque. Used for many applications from small tapping centers to M/C's.



Component Parts

Saddle unit
High-performance saddle unit based on the Roller Drive.

Component
Internal Roller Drive components for customer-integration.

APC unit
High-speed pallet changer. Non-hydraulic and energy-saving.

ATC unit
High-speed tool changer for machine tools.

High-speed indexable tool turret
Tool turret for NC lathes



RT Series

Perfect for contouring due to zero-backlash technology. The open-end design coupled with speed and accuracy is suited for many applications from tapping centers to M/C's.



RTA Series

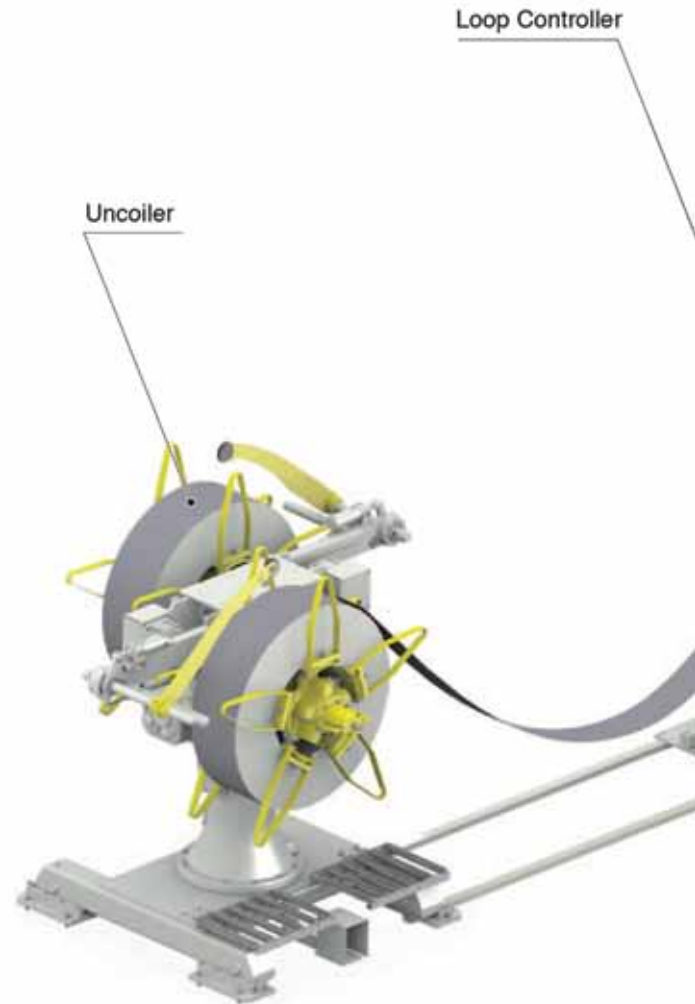
Trunnion-type two-axis rotary table for continuous heavy cutting.

The Variax Series Increases Throughput of Press Lines Using Advanced Technology

Variax is the name for high-performance high-speed press feeders and peripheral equipment and systems from Sankyo. This series combines our time-proven cam technology with the latest drive technology to solve various requirements in the press and forming industry.

The Variax includes the world's fastest feeder, based on a roller gear cam drive mechanism and an originally developed motion profile and servo drive mechanism. We offer roll feeders capable of 2,000 spms and grip feeders capable of 3,600 spms, both the fastest in their class. Both types offer adjustable feed pitch, thickness, grip force, roll parallelism, and other features. These adjustments can be easily done during continuous operation, making the Variax easy to use and suitable for higher productivity.

The feeder and servo controls form synchronized systems that turn press forming lines into flexible manufacturing systems or numerically controlled systems. Our SCT Drive or VSD Drive allows a Variax to be mounted on any press in the world. The Variax technology can help develop flexible manufacturing systems. Our R&D team is ready to listen to your goals, specifications, and other demands.



Variax



VG Series

The standard feeder for feeding thin or soft material with precision and speed.



VGX Series

Gripper feeder. High-speed model with user-friendly numeric feed settings.



VS Series

Servo roll feeder. Small footprint, high-speed performance rivals mechanical feeders.



Uncoiler

Servo driven uncoiler for high-speed, quick-response applications.



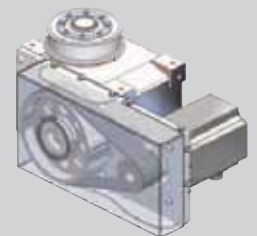
Servo drive

High-speed servo drive system for the Variax. Synchronizes with the press.



Scrap cutter

Compact cam driven scrap cutter.



Lamination Die Staggering Unit

Servo driven unit staggers lamination die for motor core production.



Loop controller

High-speed consistent material loop controller.



V Series

Heavy duty roll feeder capable of feeding heavy material at high speeds.



VLC Series

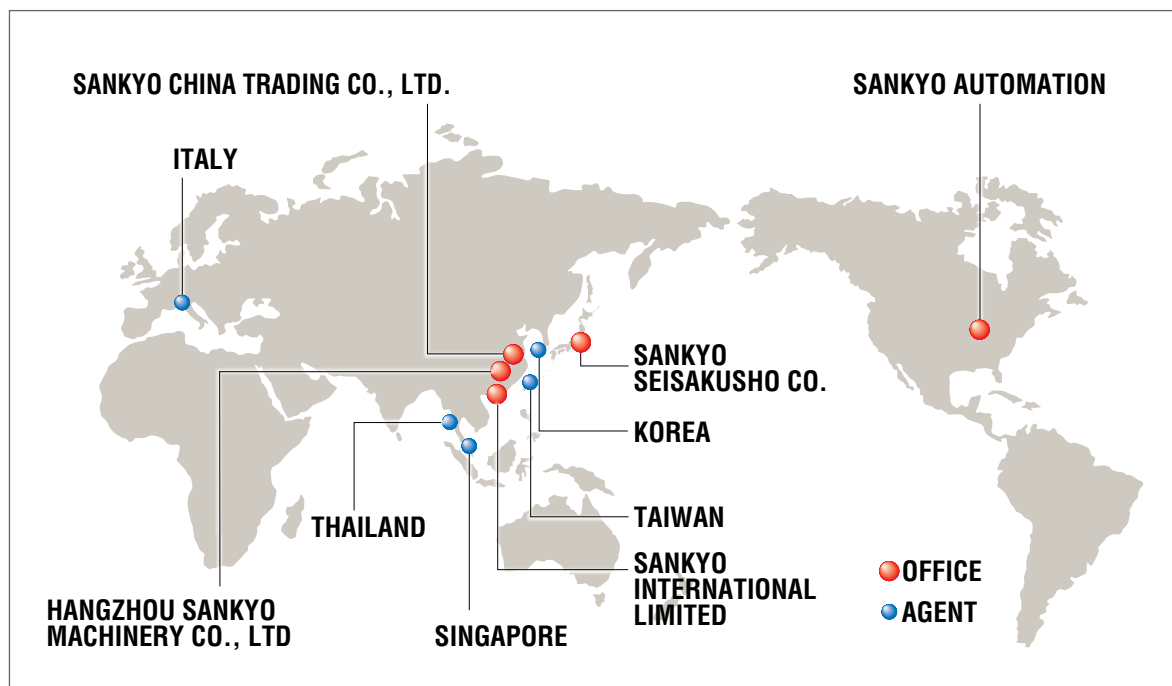
Creates the ideal loop shape required. Sets optimum feeding by forming ideal loops in space provided.



VSC Series

Takes advantage of spring characteristics. Stabilizes loop using sensor and servo control. Excellent handling will not scratch, kink, or dent material.

Global Network



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