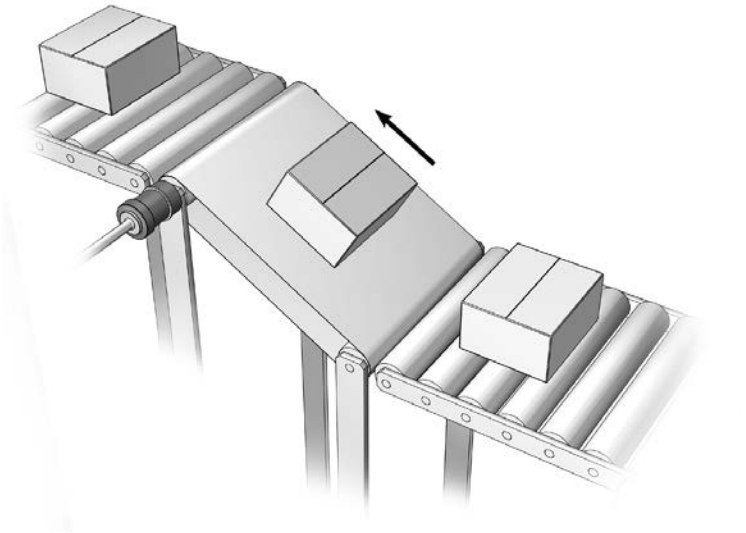
Application Examples

The features of wrap spring clutches and brakes; accuracy, repeatability, high torque-to-size ratio, low power consumption and long life make them an ideal solution for a wide range of motion control applications. Basic functions include overrunning, single revolution, random positioning start-stop, high cycle rate rapid start-stops and accurate, repeatable positioning.

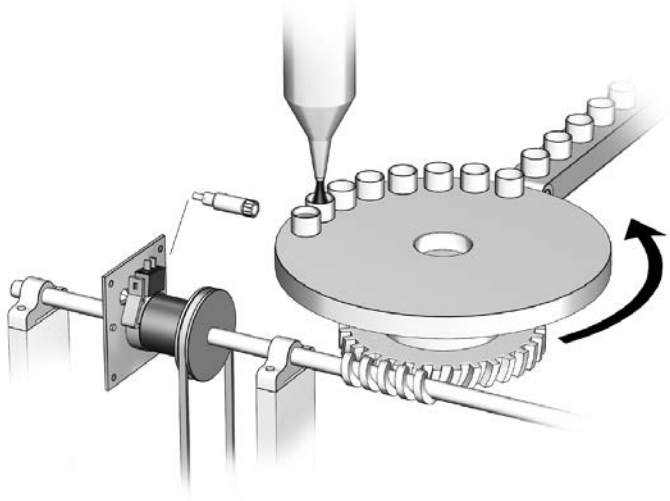
Typical Applications

- ☐ Conveyors
- ☐ Rotary indexing tables
- ☐ Packaging equipment
- ☐ Bagging machinery
- ☐ Collators
- ☐ Cut-off machines
- ☐ Vending machines
- ☐ Copiers
- ☐ Food processing equipment
- ☐ Paper feeds
- ☐ Folders
- ☐ Material handling equipment
- ☐ Riveters, staplers and stitching machines
- ☐ Sorters
- ☐ Punch presses
- ☐ Textile machines
- ☐ Film and wire processing



Incline Conveyor

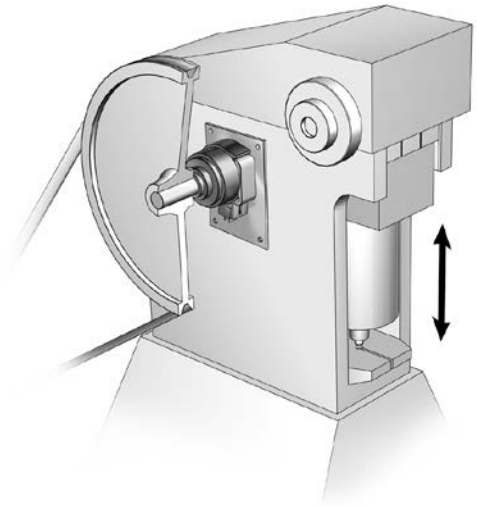
The **WSC Model O** mechanical wrap spring clutch provides maintenance free anti-backup protection for this incline conveyor. While the conveyor is running, the wrap spring is in overrunning mode, allowing the clutch's output to freewheel. When the conveyor drive power is removed, either intentionally or unintentionally, the spring holds the hub stationary and will prevent the conveyor and its load from back-driving.



Indexing Rotary Table

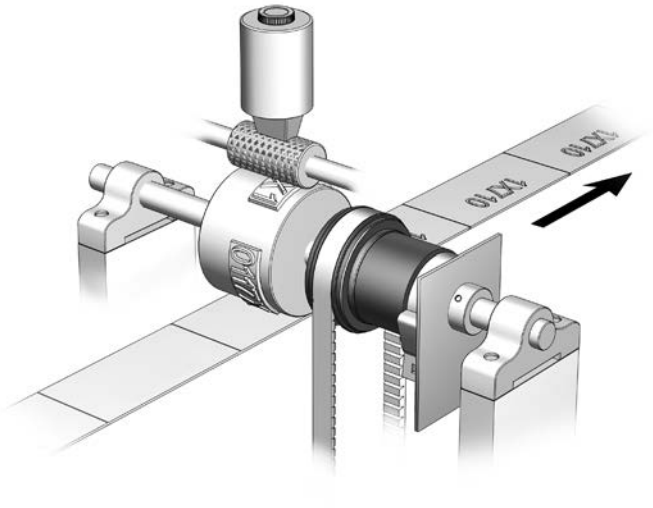
Each time the power supply provides a pulse to the solenoid of the Standard CB wrap spring clutch/brake, the table indexes one position for filling, labeling, sorting, staging or inspecting products. **CB, Super CB or WSC Model S** (with customer supplied actuator) units may each be used to perform the indexing function. Please note that while the graphic shows open gearing, a standard enclosed gearbox will work just as effectively.

Application Examples



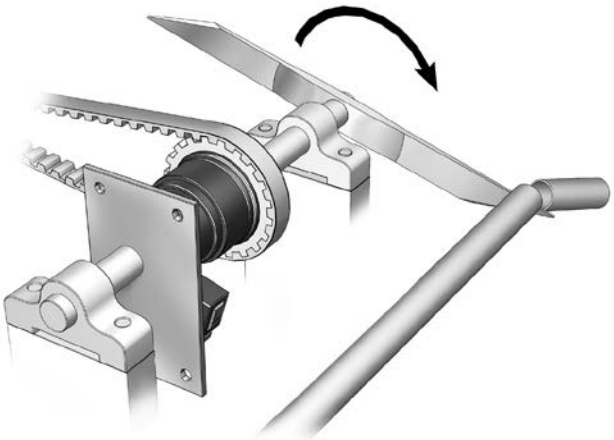
Industrial Stitchers and Staplers

The motor drives a large flywheel and a cam connected to the stitcher head. The **CB** or **Super CB** wrap spring clutch/brake provides one complete cycle, always stopping at the same precise position in time for the next cycle. Warner Electric's CB and Super CB units never require any adjustment or lubrication, and provide non-cumulative error for cycle-to-cycle accuracy and consistency.



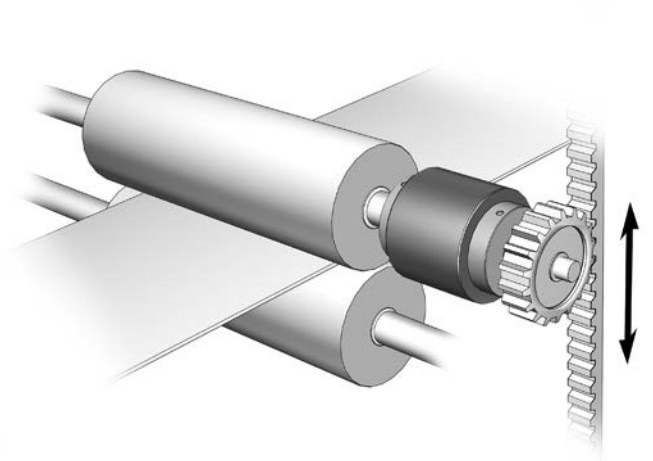
Print Head

In this printing application, a photoelectric sensor detects the registration mark on the web and signals the **CB** or **Super CB** clutch/brake to cycle. Each cycle drives the print wheel in registration with the continuously moving web material. Warner Electric wrap spring clutch/brakes provide start and stop positioning within a ± 1/2° per revolution (non-cumulative), making them an excellent solution for applications requiring highly accurate, consistent performance.



Cut-Off Knife

As tubing material is fed, a sensor determines when the appropriate length has been reached, and signals the clutch/brake to cycle, driving the knife to cut the tubing to the correct length. This application shows a standard option two-stop collar, which indexes 180° per sensor input, making two cuts per one complete 360° revolution. The **CB** or **Super CB** clutch/brake provides error free indexing, making the reaction time for the knife consistent from cycle-to-cycle.



Rack and Pinion Indexing

The unidirectional **WSC Model O** operates as an indexing drive for this application. As the rack moves upward, the wrap spring drives, providing torque to the in-feed rolls. When the rack moves downward, the wrap spring clutch freewheels, transmitting no torque to the rolls. Since the cam, pinion gear and rolls are all constant diameters, coupled with the accuracy of the WSC, the amount fed each cycle remains constant and consistent.