



The Next Generation of Turns

Packaging Line Belt Curves & Merges

FLOW-TURN's belt curves and belt merges are designed to meet the requirements of heavy-duty packaging line applications.

Extensive product testing ensures that Flow-Turn curves and merges operate reliably for many years, even under the most demanding conditions.

FLOW-TURN **Square-Turn** curves and spirals are robust chain-driven belt conveyors with narrow transitions and cylindrical end rolls – diameters can be as small as 2”.

Spiral-Turn curves are helix conveyors that either incline or decline. Multiple spiral segments can be combined into a **Spiral-Tower** for high elevation changes.

For very small product requiring extremely tight transitions, **Knife Roll-Turn** curves offer even smaller end rolls (Ø7/8”)

Triangular **Flow-Merge** strip belt conveyors are designed to merge product onto collector conveyors or, as spur conveyors, to receive product from sort lines.

All FLOW-TURN curves can be complemented by adding straight **SLB Conveyors** which can be slave driven to minimize the number of installed drives. SLB conveyors are chain-driven, just like Square-Turn curves. This allows very short tangents, without belt tracking issues, as the belt is guided by the drive chain. Square-Turn curves and SLB conveyors share the same end rolls parts which minimizes needed spare parts.

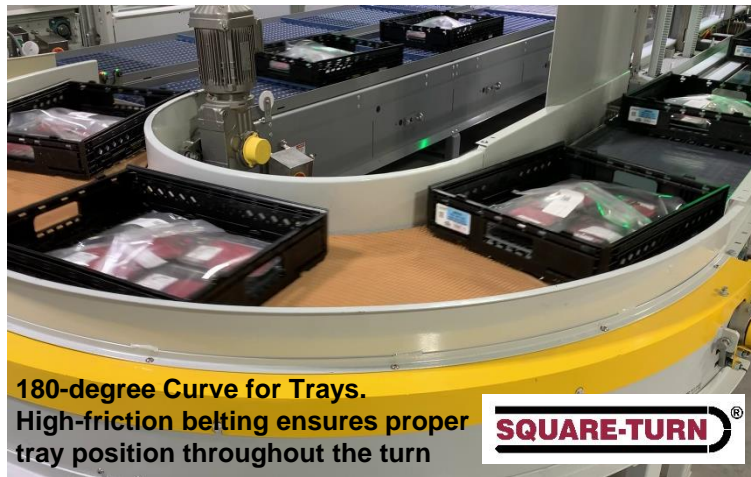
FLOW-TURN conveyors are built for the most stringent specs and can be provided in a variety of paint finishes or with stainless steel frames and hardware. Drives by all major manufacturers and many design options are available.



90-degree inclining
Spiral-Turn B-SP-34_25-90-16
in a Bag Packaging Line

About FLOW-TURN

Flow-Turn Inc. is an independent, New Jersey based, manufacturer with more than 40 years of experience in the design and build of powered curve and merge conveyors. Flow-Turn's conveyors are installed in many packaging lines, distribution centers, parcel hubs, manufacturing facilities and airports.



180-degree Curve for Trays.
High-friction belting ensures proper tray position throughout the turn



Key Advantages

- Simple, Efficient & Reliable Design
- Rugged Steel Construction
- Low Maintenance Requirements
- Low Noise Operation
- Easy Belt Replacement
- Conforms with All Safety Regulations

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Flow-Turn Packaging Line Curves Rev00



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*Custom design is a FLOW-TURN specialty.
We manufacture to rigid specifications and provide answers to unusual requirements.*



View of sliderbed with belt removed:



Cylindrical End Rollers ("Pucks") are used at drive and tail end for parallel belt-to-belt transitions.

Square-Turn belt curves are available in various sizes, arcs, and design options. Standard puck diameters are 2", 2.5" and 4" depending on product size, required speed, and curve size.

FLOW-TURN's **Square-Turn** belt curve design with cylindrical pucks has significant advantages over traditional curves with tapered pulleys:

- ❑ Parallel belt-to-belt conveyor transitions, eliminating the trapezoidal gap of tapered pulleys.
- ❑ Shaft diameters and pucks are uniform in size, while tapered pulleys vary by inside and outside radius – this greatly simplifies parts stock keeping if multiple curve with varying sizes are installed.
- ❑ Reduced noise compared with roller curves or belt curves with tapered pulleys.
- ❑ Drives are arranged exactly parallel and perpendicular, just as with straight belt conveyors.

Square-Turn belt curves are available with painted steel frames (powder coat, color per RAL) or in stainless steel design, both in 10 Ga frame construction.

Many belt options are available, including food-grade, freezer or high-temperature belting. Belts can be endless (without laced splice) or laced for quick belt replacement.

Gearmotors are shaft-mounted or underslung, normal mounting location is on discharge end. Gearmotors can be placed on the curve inside or outside.

Many options and accessories are available, e.g. floor supports, ceiling hangers, side guards, or transfer rollers.

Please inquire if your project has special requirements.



90-deg. Square-Turn with 2.5" Pucks, with Underslung Drive, in Stainless Steel Design

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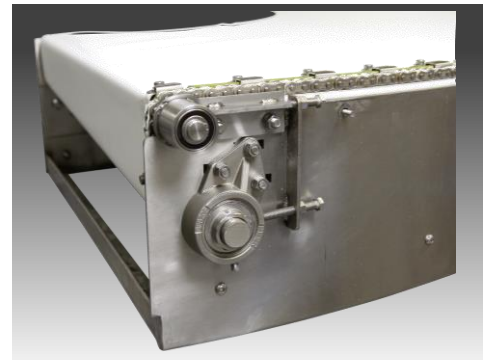


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Packaging Line Belt Curves



180-degree Knife Roll-Turn in a Bottling Plant

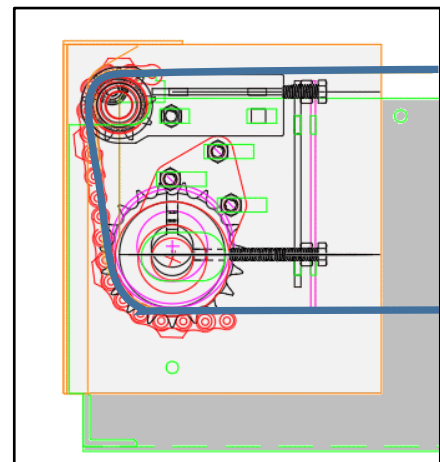


Knife Roll Belt Travel and Drive/Tension Pulley Detail

FLOW-TURN's **Knife Roll-Turn** belt curves are designed for applications requiring narrow gaps between up- and downstream conveyors to transport even smallest items safely and reliably.

Key benefits of the Knife Roll design are:

- ❑ 7/8" (22 mm) diameter end rolls allow extremely narrow, parallel transfer gaps with adjacent conveyors
- ❑ The transfer point is fixed and not affected by belt tensioning. The belt travels around a series of sealed roller bearings on a joint shaft. Chain/belt tensioning is accomplished by a pulley below the transfer point
- ❑ Easy Belt Replacement - belting is available with laced splices or in endless design. For power turns with endless belts, the inner curve frame is removable.
- ❑ Availability in many sizes, with the inside radius (IR) as small as 8" / 200 mm, and the Between Frame (BF) conveying width as large as 39" / 990 mm.
- ❑ Simple, efficient and reliable design – the positive chain drive system with tapered guide rollers underneath the transfer points and "Loose Belt" technology are long-proven conveyor components that minimize belt wear.
- ❑ FLOW-TURN also offers Knife Roll-Straight conveyors that match the end roll design and can easily be combined with belt curves and other conveyors (see photo).



Belt Travel at Transfer Point



Knife Roll-Straight conveyor with 5/8" diameter end rolls, matching the **Knife Roll-Turn** design.

Ideal for applications requiring precise, narrow belt transitions and fixed centerline distances.

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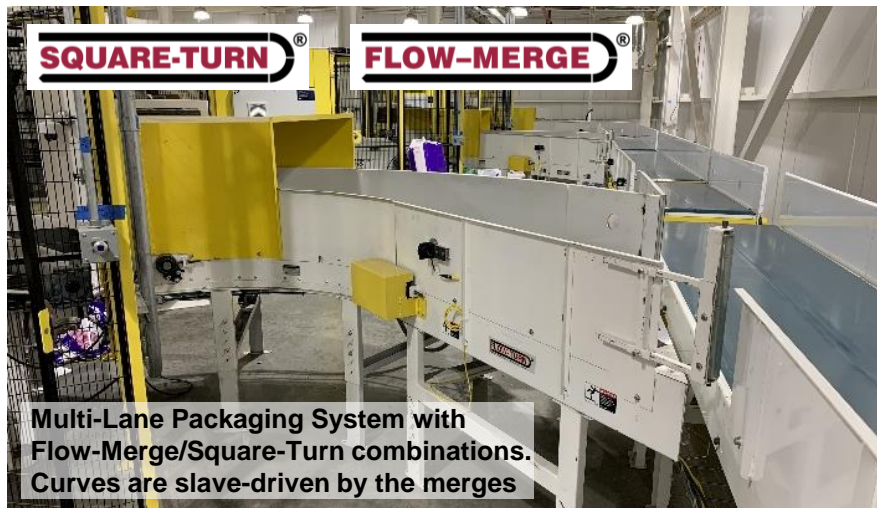
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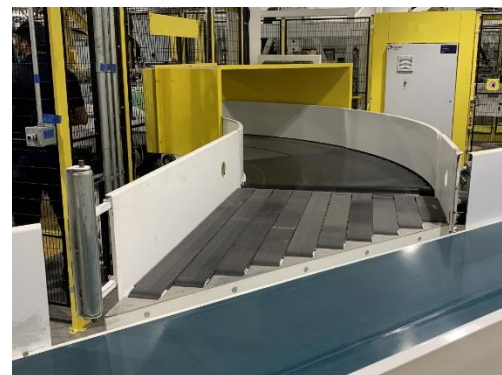


The Next Generation of Merges

Packaging Line Belt Merges



Multi-Lane Packaging System with Flow-Merge/Square-Turn combinations. Curves are slave-driven by the merges

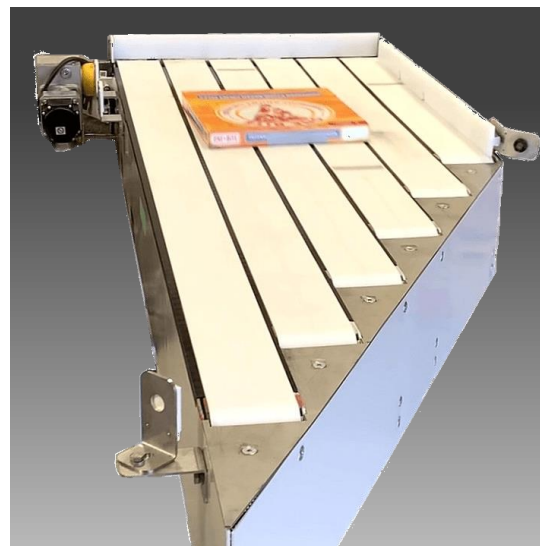


FLOW-TURN's **Flow-Merge** conveyors utilize a series of strip belts that create a triangular transition arrangement with another conveyor. This allows packaging line applications at almost any angle and speed, complementing FLOW-TURN's belt curve program.

Belt strips are precision cut and laced which makes them easily replaceable. A bead is attached to the belt bottom which travels in matching grooves on slider bed, end rolls, and drive pulley. This assures proper belt tracking at all times. End rolls are designed to be exchanged without tools.

- ❑ Simple, Low-Maintenance Design; usable for both Merge and Diverge (Spur) Applications
- ❑ Available in standards angles 20, 22, 30, 45 and 60-degree, other angles are available upon request
- ❑ Large "Between Frame" (BF) Width Range, from 16" to 60"; other widths available upon request
- ❑ Self-Tracking & Quick-Replaceable Strip Belts with Lacing; High-grip, low-friction and food-grade belting is available

Pictured below: 45-degree **Flow-Merge**, merging onto a straight **SLB Conveyor** which is slave driven from a 45-degree **Square-Turn** curve.



30-degree Flow-Merge operating as a spur conveyor, receiving pizza cartons from a sorter. Spur is servo-driven and equipped with food-grade belting. Product is aligned at the end of the spur and picked up by a robot with vacuum gripper.

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