Components for which systems are available







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- FEEDING IN THE LATEST
- METAL BUSH WITH CHAMFER
- CENTRIFUGAL FEEDER FOR CAPS

Elscint Ahead

Feeding In The Latest . . .

Monish Shete

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Wishing every one a very Happy Diwali & Happy New Year! Coming to this edition of the Elscint Ahead Newsletter, you can read about a recently delivered vibratory bowl feeder which had a very critical orientation. The second news item is about a high speed cap centrifugal feeder. As always, you can download the pdf version of this newsletter as also the back copies of the Elscint Ahead Newsletter.

Feeding of a Metal Bush with Chamfer



Feeding and orienting a small bush component presented a classic feeder engineering challenge: the part needed to be delivered in **rolling orientation**, with its **0.5 mm chamfer consistently facing the bowl centre**. With a chamfer this fine, conventional tooling struggles to reliably detect and select the correct orientation — parts can pass through orientation tooling in either direction with almost no mechanical "tell" to distinguish them. Plus there were three types of bushes varying in diameter and lengths.

The Challenge

- **Sub-millimetre feature detection**: A 0.5 mm chamfer offers very little surface differential for standard tooling (gates, rails, drop-offs) to key on. Small tolerance stack-ups or wear or even some burr on the part can cause selection tooling to lose reliability.
- **Rolling orientation control**: The bush had to travel in a rolling orientation rather than sliding or standing, which meant track geometry and vibration parameters needed to keep the part rolling true without tipping, without inducing false chamfer readings, and without part-to-part jamming on the track.

The Solution

We used a cast Aluminium bowl with stainless steel tooling purpose-built around this component's geometry:

- **Custom orientation tooling** tuned specifically to detect and select on the 0.5 mm chamfer, using precision-machined track features to consistently reject incorrectly oriented bushes back into the bowl for re-cycling rather than risk incorrect delivery.
- **Rolling-orientation track design**, engineered to keep the bush rolling stably along the track at the correct vibration amplitude and frequency, maintaining orientation integrity all the way to pick-up point, with the chamfer held facing bowl centre. You can watch the video of the vibratory bowl feeder

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High Speed Centrifugal Cap Feeder

Feeding bigger diameter caps (diameter 80 mm & 90 mm) is already a challenge and getting a speed of 200 + in a vibratory bowl feeder is next to impossible. Here comes in Elscint's Rotary / Centrifugal feeder.
When your filling or capping line demands sustained throughput without compromise, the Elscint Centrifugal Cap Feeder delivers — consistently, reliably, and with the flexibility to handle two different cap profiles on a single platform.

Designed and built entirely in stainless steel, this rotary centrifugal feeder is the result of decades of automation engineering applied to one of the most demanding challenges in packaging: reliable, gentle, high-speed cap orientation and delivery. Whether you're running flat disc caps, sports caps, flip-tops, or screw closures, the Elscint centrifugal bowl can be configured to sort and deliver at speeds exceeding 200 parts per minute — all from a single system.

The machine shown features a full-height inclined elevator hopper feeder alongside the centrifugal bowl, giving your line an oversized bulk buffer. That means less frequent manual loading, reduced operator intervention, and uninterrupted flow even through extended production runs.

Built for the Demands of Modern Packaging Lines

Every component of this system has been engineered with one priority in mind: reliable, sustained high-speed output. Here's what sets it apart from conventional bowl feeders.

200+ Parts Per Minute

The centrifugal disc's rotational speed and precision tooling geometry combine to deliver consistent sorting and output rates exceeding 200 caps per minute, cycle after cycle.

Dual Cap Format Capability

Configurable tooling and adjustable guide tracks allow this feeder to handle two different cap types — ideal for multi-SKU lines or facilities that need production flexibility without duplicate equipment investment.

Extra-Capacity Elevator Hopper

The large-format inclined belt elevator feeds the centrifugal bowl continuously from a high-volume bulk hopper, dramatically reducing the frequency of manual cap loading and supporting longer unattended production runs.

Full Stainless Steel Construction

Every structural element — bowl, disc, hopper, elevator frame, and support legs — is fabricated from polished or brushed stainless steel for GMP compliance, easy washdown, and long service life.

Gentle Part Handling

The centrifugal working principle moves caps by centrifugal force rather than vibration, resulting in reduced part wear, lower noise levels, and improved orientation accuracy versus traditional vibratory bowls.

Compact Footprint, Heavy Output

Despite the high-volume hopper and elevator assembly, the overall machine footprint is optimized for integration into existing packaging lines without major floor plan reconfiguration.



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Centrifugal Feeding Technology Explained

Unlike traditional vibratory bowl feeders — which rely on fine-tuned oscillation to walk parts along a spiral track — centrifugal feeders use a rotating disc to spread parts outward by centrifugal force onto a stationary sorting ring. This fundamental difference delivers several operational advantages at high speed.

Stage 01 - **Bulk Loading via Elevator**

Caps are loaded in bulk into the base hopper of the elevator conveyor. The inclined belt lifts caps continuously and deposits them into the centrifugal bowl, maintaining a consistent fill level automatically.

Stage 02 - **Centrifugal Disc Spreading**

The rotating disc at the bowl's center distributes caps radially outward. The disc speed is precisely controlled to match the required output rate while keeping caps from stacking or tangling.

Stage 03 - **Orientation & Sorting**

As caps reach the outer ring, precision-tooled guides orient each cap into the correct position. Incorrectly oriented caps are returned to the disc for re-cycling.

Stage 04 - **Discharge to Line**

Correctly oriented caps exit through the discharge track in a singulated, oriented stream, feeding directly to your conveyor or we can provide you with a conveyor for the same.

This particular application had 3 caps having varying dimensions to be fed in open side facing ground orientation at a speed of 200 caps per minute. We could deliver this and more! A total of 3 systems were supplied to a major packaging machine supplier.

You can watch the video of the same.

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