

Filling Equipment

Filling, capping, and labeling is a capability of the servo-driven Monobloc Fill/Finish Packaging System. This double index filling system includes the following features:

- Feeding the containers from a bulk unscrambler into the turret
- Filling the containers utilizing positive displacement piston pump technology
- Applying screw thread caps to the containers
- Transferring the completed containers into the indexing system of a labeler
- Labeling the tubes

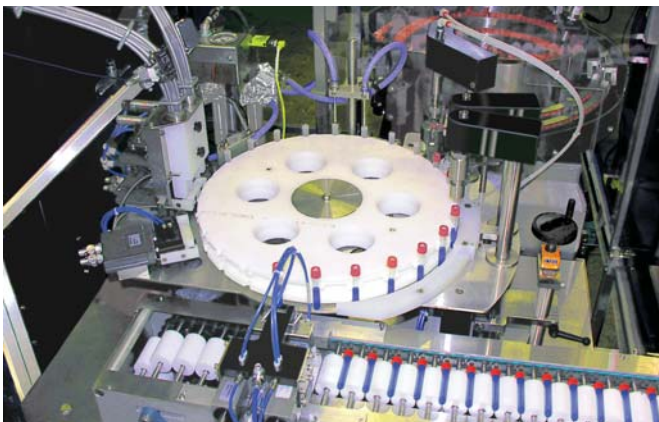
Challenge

The challenge is the sorting, feeding and labeling of a tall unstable test tube container on a double-index Monobloc.

Solution

The sorting and feeding requires two sorting bowls with discharge conveyors. Each discharge conveyor feeds oriented tubes (bottom leading) to a vertical drop chute and escapement mechanism. The tubes are then loaded into the pockets of the Monobloc's indexing turret.

After the filling & capping functions, the tubes are labeled. Since the tubes are unstable, labels are applied on a "trunnion roller" labeling system. A two-axis robotic pick'n place device removes two filled tubes from the turret, rotates the pair of tubes from a vertical to horizontal plane and places them onto the trunnion roller infeed conveyor of the labeler.



Industry - Pharmaceutical
Container - Plastic Test Tube
Speed - 60 cpm
Metering System - Piston Pump
Combination - 2 container sizes/styles
2 cap sizes/styles

Filling, Capping, Labeling

The filled and capped unstable test tubes are transferred to the labeling area where the containers are horizontally positioned.

This technique places the empty containers below the fill nozzles by the indexer. The nozzles are held in a stationary position just over the openings of the container while the product is dispensed from the filling units.

During the capping process, the containers are transferred to the feed system where the turret places the caps onto the bottles and turns the caps so that the thread of the cap is joined with the thread of the bottle's neck.

The labeling technique allows the filled and capped tubes to be transferred to the labeling next machine horizontally positioned that they can be labeled with ease.