

2-MINUTE OVERVIEW

High Capacity Conveying & Sorting System Reduces Operating Costs, Improves Service to Customers



Southern Wine's distribution facilities provide next-day delivery to almost 140,000 customers. Orders received by 5:00 pm are delivered the following day. The company is constantly refining its automation process to ensure the most efficient production and consistent level of customer service, despite its continual growth. The Southern Wine regional DC located in Lakeland, Florida, is the highest capacity operation in the Southern Wine USA network.

Although the majority of deliveries encompass full cases, there is some full pallet delivery to supermarkets and other chain stores, and a small amount of cross-docking. In addition, this DC is designed to accommodate split-cases. Restaurants and bars frequently want to order just one bottle, and do not want to buy a full case because they usually do not have the storage capacity or enough customer demand. So, the conveying and sorting systems manages the high volume of split-case orders.

The facility utilizes roller accumulation conveyors, featuring rollers on 2" centers to minimize product breakage. The accumulation conveyors progressively release loads or release a slug of loads. It features smooth starts and stops to ensure that fragile and unstable loads can be safely accumulated and conveyed. Southern's cases weigh an average of 35 to 40 pounds. This system has the strength and versatility to work efficiently in heavy load environments to transport loads, stop and accumulate, reorient, and stage. Portions of the conveyers in the DC are capable of moving product at a rate of 500 feet-per-minute, which is fast for this industry considering the product is almost all glass, and high value. It is important that the system be able to convey with minimal breakage.

The breakage percentage with this system is very low, approximately .075 percent. That is about 50 percent lower than the average breakage

- ### Solution Profile
- Wine & Spirits DC, 12,000 SKUs
 - Highest capacity in Wine & Spirits industry
 - Scans 'Source Classification Code'
 - Breakage 50% lower than industry average
 - Provider: **DEMATIC**

for this industry. Southern is handling 11 million cases a year, at an average value of \$100 per case that represents a substantial improvement above industry norms.

Slug Merge Streamlines Carton Handling

The slug merge system controls the staging and release of cartons into the high-speed sorter, increasing system throughput and eliminating bottlenecks. The merge evens out differentials from multiple pick areas and optimizes batch cycling. The cases are scanned upstream on the conveyor and then released into the merge without any gaps. Like a train of product that is released at one time instead of scanning each individual carton. This creates very little gap between cartons which gives a faster movement through the sorter than with a conventional merge.

High-Speed Sortation Increases Throughput & Shipping Accuracy

The sliding shoe sorter provides positive sortation and ultra-high throughput. The highest capacity sortation that Southern had achieved before they built the Lakeland DC was 6,000 cases-per-hour. The company determined that to get a higher capacity of cases through the building would require a new system configuration for high-speed sortation. Due to the new design, the Lakeland Florida conveying and sorting system is capable of handling a product volume of 10,000 cases an hour.

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