

Ryoshoku Limited



Ryoshoku, a major food wholesaler headquartered in Tokyo, built a new Aikawa Specialized Distribution Center in November 2002. The Aikawa Center handles all normal-temperature dry goods distribution for Kanagawa-based supermarket chain “Sotetsu Rosen” as the Sotetsu Rosen Aikawa Distribution Center. Distribution efficiency was dramatically increased by achieving the shortest lead time in dry goods delivery, and by thoroughly reducing the workload at stores. Ryoshoku integrated seven distribution bases to establish a centralized control and delivery system, supporting and promoting optimum supply chains for Sotetsu Rosen.

Same-day delivery on regular products to all stores

The Aikawa DC became the largest SDC (Specialized Distribution Center) among Ryoshoku’s exclusive retailers by holding about 6,400 storage items in processed foods, confectionary, liquor, etc., and cross-docking type items such as daily necessities and clothes that are collected from 250 vendors are handled at the center.

Delivery is scheduled twice a day in morning and

Aikawa Specialized Distribution Center

System Highlights

- Site Area: 19,584m² (210,800 sq. feet)
- Total Floor Area: 19,834 m² (213,491 sq. feet)
- Case Mini Load AS/RS with a processing capacity of up to 2,100 cases per hour
- Piece picking area: Moveable inspection table allows for flexible work location for faster operation
- Jet Surfing Sorter at shipping line sorts by store aisle
- Case product pallet Unit Load AS/ARS with 3 stocker cranes and a storage capacity of 3,240 pallets
- Unprecedented AS/RS for case picking



afternoon for 61 stores using exclusive cart racks. With the new center, the level of delivery service increased dramatically. For example, all regular inventory item orders received by 11:45 am are delivered in the evening of the same day. Cross-docking items are delivered during the morning the next day. When stores order items later than 10:00 am, after stocking shelves and display are done, items are still delivered the same day. This increased order accuracy resulted in reduced inventory in the yard as well as fewer missed sales opportunities. The lead time is the shortest in the supermarket chain distribution, and the same distribution system works very well for various store floor spaces.

By delivering in cart racks by store aisle the time spent stocking store shelves has dramatically decreased. With a consolidated delivery method, the number of trucks has been reduced by more than half and is currently 4 to 7 trucks per day. No inspection required at the time of store delivery meant no more troublesome checking by store workers. These improvements helped Rosen achieve their goals of better customer service and labor cost reduction.

AS/RS ships products according to the store aisle display layout

To satisfy a higher level of service required by stores, a more advanced material handling system has been built at the new center. The main feature is integrating AS/RS extensively for shipment sorting. Ryoshoku has been very successful at other SDC or

RDC (Regional Distribution Center) by introducing a replenishing system for piece picking utilizing AS/RS.

Also, various AS/RS are utilized for direct case picking and sorting systems for shipping, offering an unprecedented level of automation among distribution centers for the food wholesalers.

The new system uses the receiving inspection terminal for inspecting receiving goods. Then bulk items are stored at the push-in type pallet rack while low-volume items in case/piece unit are stored at the pallet-type Unit Load AS/RS. Liquor and irregular loads are stored at combination racks.

At the time of shipping, bulk items, liquor, and irregular-shape items are picked using the cart rack according to the command from the SS radio terminal. The low-volume case items in required quantity are retrieved from the Unit Load AS/RS then sent to case-type Mini Load AS/RS. At the Mini Load, cases are retrieved according to the store aisle and display layout. The Auto Labeler prints out the location number of the store display rack and affixes it on each case before it reaches a sorting chute, the first of its kind in Japan. At the end of a chute, a worker loads the cases onto the cart rack in the order that has been sorted.

Piece shipping items are collected by the DPS (Digital Pick System) and placed in a collapsible container while being inspected. Containers are temporarily stored in the AS/RS before being retrieved by store aisle and display layout then automatically loaded onto the cart rack. The new Aikawa Center achieved operation cost reduction in addition to meeting customers' high demands with automation.