

## Nagai Leben Co., Ltd.



Nagai Leben Co., Ltd. is one of Japan's top manufacturers of medical apparel and medical goods. The company has a domestic market share of over 50 percent thanks to its aggressive business strategies, including cultivating high-technology know-how enabling Nagai to respond to the needs of the medical industry.

In January 2003, Nagai Leben built the new Nishi-Nippon Distribution Center to better serve customers in Japan's western region. With various material handling equipment in place, Nagai Leben ensures accurate picking of over 4,200 medical goods and 450 types of clothing articles, including white gowns, caps and shoes, plus fast and reliable delivery.

### Four material handling centers in western Japan

Since its establishment in 1915, Nagai Leben has expanded its business as a key producer of medical apparel under the brand "Human Front - protecting lives at the front line". Nagai Leben also established Nagai Hakui (white uniform) Industry, Co., in 1969. Today, the number of direct

### Solution Highlights

- Site Area: 2,000m<sup>2</sup> (21,528 sq. ft)
- Floor Area: 3,400m<sup>2</sup> (36,597 sq. ft)
- Mini Load AS/RS (Automated Storage/Retrieval System) has 2 Stacker Cranes and 6,640 case storage capacity
- A stationary bar code reader automatically reads code on received boxes
- Worker scans the bar code for each item picked using one of 12 PCS units
- Once picking is completed, workers print detailed labels and affix them to the shipping boxes
- A turn table is used to transfer boxes retrieved from the Mini Load AS/RS system to flow rack on the SPC (Space Carrier)
- Nine SPCs travel at 120 m/min on 70m rails to replenish boxes on the flow rack
- Less frequently shipped items are stored on mud-weight racks



enterprises and subcontract factories at the Akita site has reached 13, making it the main production base for the Nagai Leben Group. In 1994, a new Akita Distribution Center was built next to the Akita Factory to enable next morning delivery for customers in Japan's eastern region and to increase accuracy without delay.

Another challenge for Nagai Leben was to increase shipping capacity and enhance quick response for customers in western Japan. In the past, Nagai Leben responded to orders by stocking limited inventory in four locations: Osaka, Hiroshima, Takamatsu, and Fukuoka. Orders for out-of-stock items were transferred to the Akita Distribution Center for direct delivery to customers, which resulted in longer response time.

To eliminate the problem and to increase customer satisfaction, Nagai Leben built the new Nishi-Nippon Distribution Center to cover the regions of Osaka and Okinawa. Picking, sorting and storing operations that were done manually in the past were replaced with a Daifuku automated Mini Load material handling systems (AS/RS). The site also employs other Daifuku products including the WMS (Warehouse Management System) *WareNavi*, automated replenishing system *Space Carrier* (SPC) and Picking Cart System (PCS) to greatly enhance physical distribution capabilities.

#### Efficiency of data sharing for main office and DC

The new Nishi-Nippon center enables next morning delivery in Japan's western regions benefiting Nagai's 600 existing customers as well as new customers. An additional benefit of the centralized distribution operation included more floor space for other activities because of the small AS/RS footprint.

Nagai Leben also introduced a bar code control system into its facility by affixing JAN codes to products for increased shipping accuracy and picking efficiency. The bar codes read material/color/size information with a scanner when products are received. By connecting the host computer in the main office and the DC by a network, information is shared to provide more effective operations from picking and sorting to inventory control.

