

Kennecott Utah Copper Company



Company Gains Inventory Control & Improved Access to Small Spare Parts Inventory

Kennecott Utah Copper Company (KUCC) is a United States-based mining, smelting, and refining company owned by British-Australian company Rio Tinto. Kennecott contracted systems integrator Hoj Engineering to help improve its material handling operations. Hoj Engineering performed a logistics study, inviting the engineers at Daifuku America Corporation to determine what equipment would improve the customer's efficiency of its small spare parts operations.



Kennecott's spare parts were located at 20 sites and over many acres – some items were stored inside while others were stored outside. Parts range from small electronic components to heavy machine parts. Kennecott's spare parts operations for both large and small parts shared a similar problem. The quantity, location, and condition of all inventory was virtually unknown. When parts were needed, employees had to walk the facility and search for items to find out if the company even had the part in inventory.

To improve the process, Hoj helped Kennecott implement a hybrid system using both automated and conventional material handling solutions. Today, all spare parts in inventory are tracked using an Enterprise Resource Planning (ERP) system. Conventional racks were installed within a new 300,000 sqf warehouse to hold and organize large items. Small spare parts are stored in metal pans



AS/RS, the rack is equipped with a fire protection system.

Daifuku's WarehouseRx Warehouse Control System (WCS) manages the operation of the storage retrieval machines within the AS/RS and tracks inventory quantity and location for improved item picking. The customer's ERP system, which controls delivery of parts into the warehouse, is linked to the WCS communicating all store and retrieve tasks in real time. Thus, the log and physical inventories are in agreement, enabling the Kennecott maintenance organizations to have confidence and access to required service parts.

with 220 pounds (100 kg) capacity. Parts were moved into a two-aisle single-deep Daifuku mini load Automated Storage & Retrieval System (AS/RS) centrally located and easily accessible within the facility.

The mini load AS/RS holds a variety of parts stored in 3,312 rack locations. Increased storage density is achieved by storing multiple part numbers in each pan. The small AS/RS is a stand-alone island of automation that integrates only with a Ushaped output conveyor where employees can manually pick items retrieved by the AS/RS and return items ready for storage. Both aisles have a Ushaped conveyor with a seven item queue capacity.

Standing 31 feet tall, the AS/RS utilizes vertical space and approximately 2,000 sqf of floor space within the facility. System installation took less than three months. As with most Daifuku high-density