

Material Handling Systems Stacker-Reclaimer



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System for Stacking and Reclaiming Bulk Materials

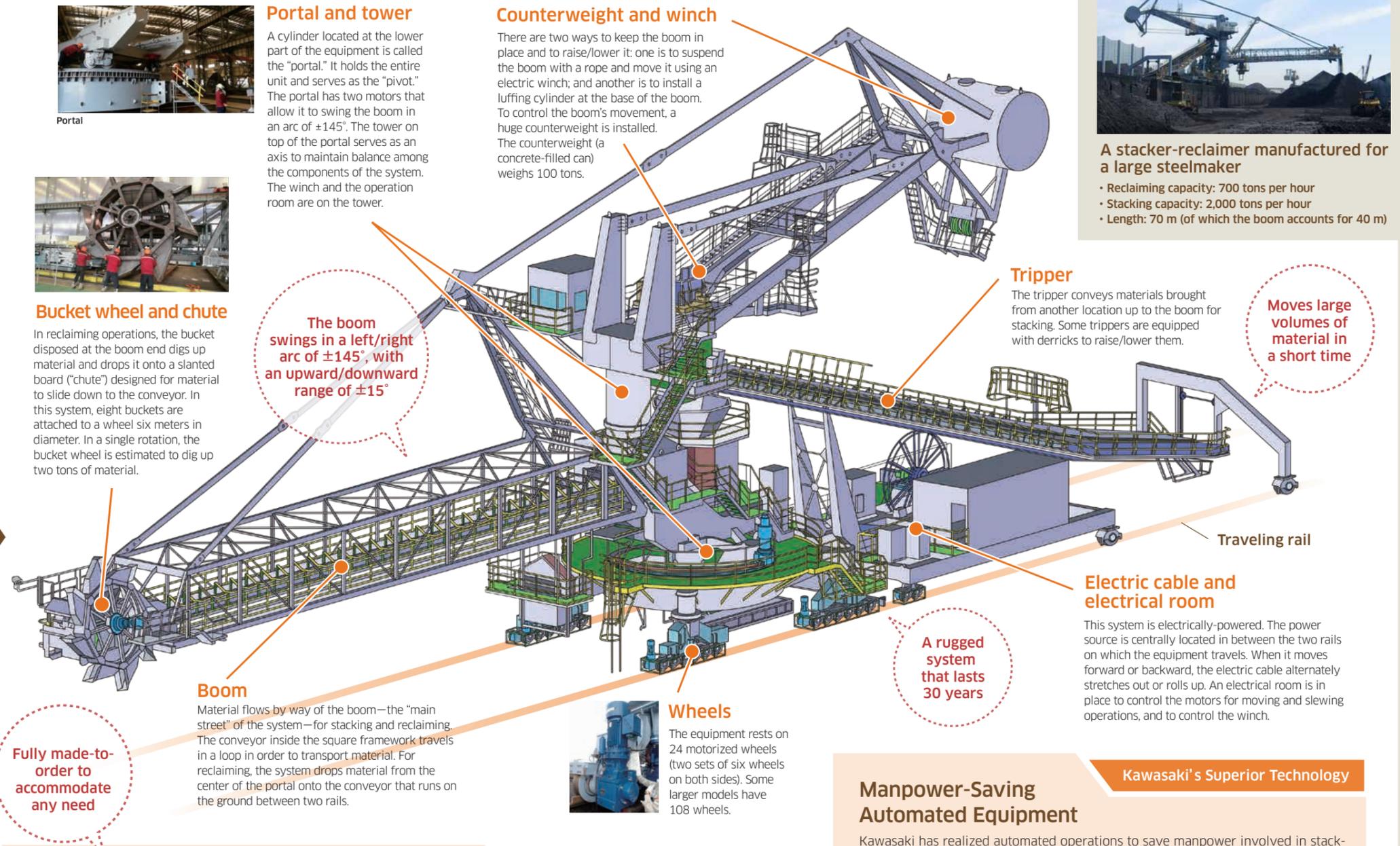
One mission of a material handling system is to stack coal, iron ore, fertilizer, and other bulk materials in piles, or to reclaim and move them from storage to another location. The operation of building a pile is called "stacking," and removing and relocating operations are called "reclaiming." Stackers and reclaimers are specialized for their respective operations, but a stacker-reclaimer is capable of handling both.

This system is indispensable at ironworks, power plants, ports, and mines. Kawasaki has been developing stackers, reclaimers, as well as stacker-reclaimers, based on its technologies for gantry cranes which load containers to ships and for ship loaders that load bulk materials onto ships.

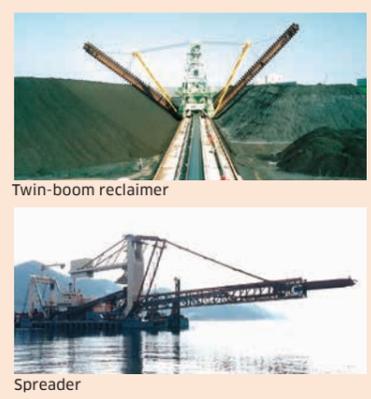
A system of the size shown upper right is capable of stacking 2,000 tons of materials per hour, but there are also models with a 5,000 tons per hour capacity. These 5,000-ton models require conveyor belts that are nearly two meters wide. Since installation sites for these systems differ in size, and have varied workload and speed requirements, they are all made-to-order.

There are only a few companies in Japan that are capable of manufacturing such devices, including Kawasaki, and therefore our material handling business carries a socially important responsibility. This also suggests that manufacturers which failed to meet the daunting requirements of customers have already dropped out of the competition. Because this system should last for at least 30 years, manufacturers must have sophisticated design and development expertise, including selection of the correct parts and accessories.

This is a system that operates behind the scenes, but is packed with technologies that only a comprehensive manufacturer like Kawasaki can offer.



Meeting Diverse Customer Needs with Conveyance Systems Underpinned by Outstanding Developmental Capabilities



Kawasaki's Superior Technology

Kawasaki has been developing a vast array of conveyance equipment in addition to stackers, reclaimers, and stacker-reclaimers that offer features of both. There is also a scraper-reclaimer which reclaims material from a pile using scrapers mounted on a circulating conveyor, and a twin-boom type (upper left photo) which works even more efficiently by having two booms with scrapers. Kawasaki's product portfolio also includes a ship loader (right photo) that loads bulk materials via conveyor onto a carrier ship, and a spreader (lower left photo) which reclaims vast areas by spreading sand.

Kawasaki has delivered a total of more than 200 large-scale material handling systems to date.

Manpower-Saving Automated Equipment

Kawasaki's Superior Technology

Kawasaki has realized automated operations to save manpower involved in stacking and reclaiming. Accurate detection of pile edges during reclaiming operations to enable the equipment to operate in response to its changes is key technology for automating operations. Using ultrasonic sensors, Kawasaki developed a technology for detecting pile edges, and moreover, for determining the location where reclaiming should begin.

