



Enhanced Coke Handling Crane Design Increases Productivity, Reduces Downtime

Features and Benefits

Increased Productivity

Dramatically Reduced Maintenance Costs

Reduced Downtime

Improved Operator Comfort

Industry Group: Crane Manufacturers Association of America (CMAA)



Maintenance cost was reduced to an estimated 10% of annual maintenance on the old cranes. PLC coordination of bucket hold and close hoists increased productivity.

A west-coast refinery with a pair of old, worn-out coke handling bucket cranes was experiencing excessive down time and high maintenance costs (reportedly \$700,000 per year). They decided it was time to replace, rather than continue to repair the cranes. They hired a consulting engineer to write a procurement specification to minimize problems.

After evaluation of bids, the user elected to buy a crane with special features designed to increase the reliability of the electrical system while improving operator comfort and reducing operator fatigue.

The two new cranes, now over five years in operation, have been a resounding success, not only meeting, but exceeding expectations. The owner states that the cranes are so reliable they have never caused a backup in the coking facility, and they no longer require an electrician on night shift. There have been zero motor or bearing failures, and the first failure of a drive (AC variable frequency) was five years after the cranes went into service.

An unexpected benefit was that even though the bucket was the same size as on the original cranes and the hoist, trolley, and bridge speeds were the same, productivity increased almost immediately. This is attributed to the improved operator comfort and visibility in the customized cab, and the PLC-controlled bucket hoist coordination.

Maintenance is optimized and downtime is reduced by the diagnostic display in the cab, and by housing the controls in a climate-controlled, pressurized walk-in enclosure.



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