



GRAINCORP GRAIN HANDLING FACILITY, QLD, AUSTRALIA

CASE STUDY

Alimak extend the life of a 26-year old Alimak elevator with a complete mast replacement

Access anytime, anywhere

ALIMAK

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Alimak service technicians identify and replace 70 m of corroded mast and base frame to extend the life of a 26-year-old maintenance elevator. Given the close proximity to power lines and the confined space, a clever solution was required to complete the mast refurbishment.

GRAIN PROCESSING FACILITIES

Founded in 1916, Graincorp operate seven bulk grain export elevators in Eastern Australia, boasting a combined grain storage capacity of 20 million tonnes. Processing wheat, barley, canola, chickpeas and sorghum, delivered by road and Graincorp's extensive rail network, these facilities handle more than 5 million tonnes of grain annually.

MAINTENANCE ACCESS

Installed in 1986, Graincorp's Gladstone facility makes use of an Alimak rack and pinion elevator to access the seven landings of their 70m grain stack. A critical piece of equipment on site, the Alimak elevator allows maintenance staff to access higher levels of the stack for necessary servicing and maintenance. The elevator also enables swift and safe access for emergency response if required.

SERVICING IDENTIFIES CORROSION TO THE MAST

Following an on-site service inspection, Alimak identified irreparable corrosive damage that had occurred to the base mast, base frame and a mast section located 25m up the grain stack. Both sections were damaged beyond repair and required the entire 70m mast and base frame to be dismantled and replaced.

Given the close proximity of power lines to the grain stack, Alimak was unable to angle a crane close enough to dismantle the elevator mast. Without the use of a crane, mast sections could not be maneuvered over the power lines. A temporary disconnection of the lines would result in a shut down of Graincorp's entire Queensland rail system.

A CLEVER SOLUTION

In order to replace the damaged mast, Alimak engineered and installed a unique winch that would allow the mast to be dismantled and reassembled manually. Fixed to the Alimak elevator car, the Alimak winch was able to hook each mast section individually and angle the section onto the elevator car roof area. Operators were then able to use the elevator itself to deliver each section to the ground.



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To replace 70 m of mast and base frame, damaged by years of corrosion, Alimak engineer a unique winch to manually dismantle and replace mast sections from within the elevator car.

In this way, each of the Gladstone grain stack's 49 mast sections were manually dismantled, with the same process used in reverse to assemble the replacement mast. Alimak worked closely with Graincorp throughout the duration of the project, providing engineering, technical, electrical and rigging support.

The Alimak rack and pinion elevator's replacement mast has been in operation at the Gladstone facility since May 2012, providing Graincorp operators with access to the 7 levels of the grain stack. Alimak's manual winch approach may be used in future projects where site restrictions prevent crane access.



Graincorp Grain Handling Facility, QLD, Australia

ELEVATOR DETAILS

Location:	Graincorp Grain Handling, Facility, QLD, Australia
Product model:	Alimak Scando 10/19
Application:	Grain handling facility, elevator access
No of landings:	7
Capacity:	1,000 kg
Elevator car size:	1.9 m x 1.2 m
Speed:	0.65 m/s
Lifting height:	70 m



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