



Haver & Boecker

Innovative Engineering: The fastest ever installation of a packaging line

Cockburn Cement, an Adbri Ltd company, is a leading supplier of cement products to Western Australia’s mining, agriculture and construction industries. In 2017, the company awarded its tender for a new packing line to global technology developer HAVER & BOECKER. While the choice of technology may have been easy, the installation was not without its challenges. Powered by innovative thinking and engineering expertise, the partnership overcame all constraints to execute one of the fastest ever installs of a high capacity HAVER & BOECKER packing line without any supply interruption.

Cockburn Cement’s Kwinana packing plant is one of seven Cockburn Cement manufacturing and distribution facilities located in Western Australia. When the plant’s grey product packing machine and associated palletiser were approaching the end of their useful life in 2017, the company began a competitive tender process to upgrade its equipment.

Having previously experienced the quality and performance of HAVER & BOECKER equipment, the company selected a 14 spout ROTO-PACKER® RVT14 - the latest in high capacity packing technology – to replace the incumbent technology. The RVT14 is

capable of quickly changing from one product to another requiring only 15 minutes of downtime, significantly faster than the older machines.

Dinesh Kapadia, Engineering Project Manager, Cement and Lime at Adbri Ltd, said “With HAVER & BOECKER’s technology, we were confident we could meet our objective of producing 4800bags/hr. It also gave us the opportunity to continue with a standardised technology for ease of operation and maintenance as well as spare parts inventory.” The RVT14 also requires less maintenance, creates less waste and produces cleaner bags than the previous machines.

Below: Cockburn Cement and HAVER & BOECKER took an innovative approach to the installation of the Kwinana plant’s new bagging and palletising line.



Innovation in installation

Spatial limitations within the plant meant the RVT14 would need to be installed in the same location as the existing packer and palletiser. With ongoing demand from key customers, the removal of the existing packing equipment and the installation of the new system had to be completed without interrupting market supply. This presented some challenging installation constraints.

While stock was built up and the rest of the plant remained operational, the timeframe to stop the old packing line, decommission the old machine and commission the new one was still very tight.

“A conventional build methodology would have required a considerable amount of time, estimated at three months,” explains Kapadia. “It would have also meant considerable additional cost through stock building and off-site storage of material.”

However, with some innovative thinking, the Cockburn Cement team proposed an alternative solution. “We used the high quality detailed drawings provided by HAVER & BOECKER to develop a modular design,” explains James Keys, Project Manager, Cockburn Cement. “Prior to installation, the packing system would be assembled in four



modules outside the packing area in a space 300m from the plant.”

Adding value

According to Adam Scata, Operations Manager at Cockburn Cement, “The modular install had its risks but Cockburn Cement, together with HAVER & BOECKER, managed them well. They provided excellent support to our team as the innovative modular design concept was developed.”

This included the packing machine layout which, designed in close consultation with the Cockburn Cement project team, ensured the footprint of the machine was the best achievable fit within the packing shed.

“The HAVER & BOECKER technicians also supported the incorporation of the blend back system to recycle all flush and waste material. This eliminated any waste going to landfill, offering both cost savings and sustainability gains,” explains Scata.

Further efficiencies were realised by implementing a double pallet stacker to increase throughput. A pallet scanning system was also installed to improve quality control and health, safety and environment factors by ensuring stable stacks in warehousing.

Rapid high-capacity installation

Once assembled and ready for installation, the modules were transported by self-propelled modular transporters from the assembly area to the installation site. Demolition of the existing machines was carried out in 48hr to provide a clean floor for installation of the new machine by crane.

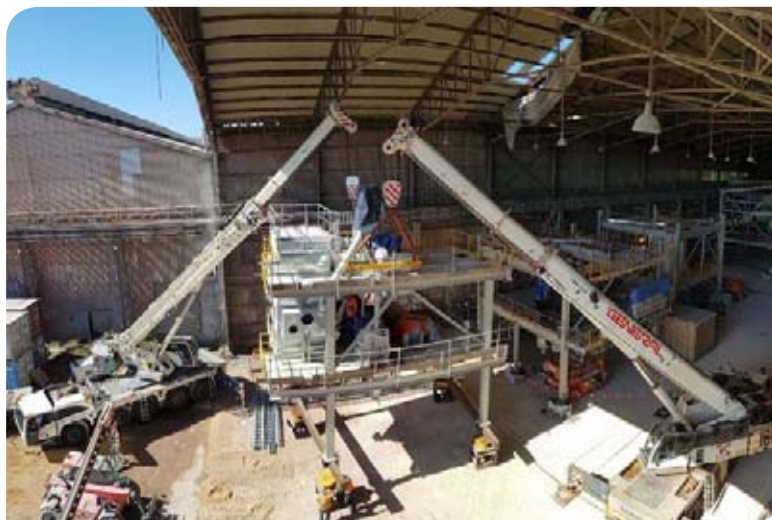
At any one time, HAVER & BOECKER had up to three technicians onsite to supervise. “The Cockburn Cement team developed a great working relationship with the HAVER & BOECKER team, from the managing directors, through to the on-site installation personnel,” adds Scata.

From powering off the old machine to commencing the wet commissioning of the new equipment was just 42 days – the fastest ever install of a high capacity HAVER & BOECKER packing line.

Commercial outcomes

The new bagging plant is nominally rated at 4800bags/hr for general purpose cement and delivers substantial efficiency, reliability and productivity benefits. The higher throughput means Cockburn Cement can now meet market demand through a single eight-hour shift operation, whereas previously two shifts were required.

This reduced operational time allows maintenance functions to be carried out during business hours and it has seen a reduction of product waste through the recycling of spillage and flush material. The cleaner bags and improved product presentation has also led to greater customer satisfaction. 🌐



Above: Assembly of the four modules took place 300m from the installation site.



Left: Installation of the modules at the final location.

Below: The new packing line was in operation just 42 days after the previous line was demolished.

