



CKF design and build Auto Packer cell for bio-bean, the world's largest recycler of coffee grounds

CKF Systems were contacted by bio-bean – an innovative company who recycle spent coffee grounds into a fuel source – and were asked to design and build a bag packing cell for their Coffee Logs product. Installed in bio-bean's production facility in Cambridgeshire, the new system has improved health and safety and working conditions as well as increasing efficiency and streamlining their operations.

BIO-BEAN is a rapidly growing organisation which began business in 2013. The company launched the world's first industrial-scale coffee recycling factory before developing and launching Coffee Logs, which are an environmentally-friendly, sustainable fuel alternative for log burners and multi-fuel stoves.

The fully automated packing cell, designed and built by CKF Systems in their state-of-the-art facility in Gloucester, was installed and commissioned in the customer premises in 2021. The cell receives the manufactured, formed logs on the twin infeed Conveyor from the production line. A dual cycle collation, pick and transfer system provides accurate positioning, orientation and loading of 8 logs per cycle into the pre-conditioned open paper bag. Using the latest vacuum technology from Piab and servo-driven vertical axis, the logs are inserted into the waiting bag. The load operation is repeated, completing the filled bag containing sixteen coffee logs.

An automated bag delivery system has a magazine holding a stack of 90 flat pack bags, with a manually fed cassette allowing for bag replenishment with the machine running. This ensures the availability of the machine with no interruption to production.

The magazine conveyor and a custom designed vacuum head, positions the bag ready for packing. The bag is conditioned from its flat pack format with a combination of precision pneumatic systems prior to being clamped in position. The pre-conditioning of the bag together with the programmed servo driven axis ensures integrity of bag during the insertion of the orientated coffee logs. Once the bag has been packed with the logs it is automatically lowered and transferred from the filling area of the machine and onto the outfeed conveyor.

Control is provided to the machine though an Allen Bradley L30 ERMS PLC and 12" PanelView Plus HMI, all mounted within a custom-built control panel. The machine is designed and built to pack 2880 coffee logs per hour.



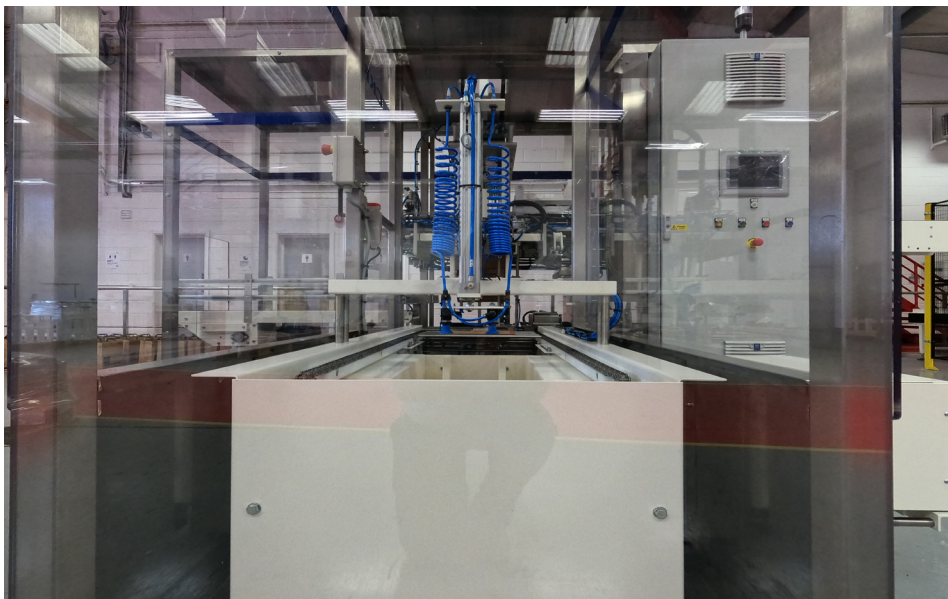
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The design and engineering of the Coffee Logs bag Auto Packer by CKF has successfully delivered for bio-bean. It's an innovative solution that enables us to scale our production whilst retaining our fully sustainable and unique product packaging. It has also enhanced the productivity and profitability of our business.

Throughout the project CKF's understanding of our manufacturing strategy, and in particular our packaging requirements, along with our current technical capability ensured key milestones were met. Like with most innovative and technically challenging projects, CKF were able to sufficiently address challenges which included variations in our technical requirements as well as supply chain issues arising from the COVID-19 pandemic.

As a company we're pleased we chose CKF as a supplier for such a significant piece of equipment. We look forward to partnering with them in the future as we expand our business further

Ben Mills-Lampsey
Chief Technology Officer - bio-bean



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