

Automotive Automation with CSL

A leading supply chain management company involved in the distribution of automotive parts within the UK, recently awarded Conveyor Systems Ltd (CSL) a contract to design a conveying solution to support inbound and out bound stock replenishment and order picking at its Distribution Centre.

The company looked to improve efficiencies and flow of inbound goods from ground floor to mezzanine storage/order picking racks. After considering a number of options, CSL proposed to switch operations from an existing platform - pallet goods lift, with the introduction of two spiral elevators that would speed up inbound and outbound handling operations without the need for the tote bins having to be palletised/ depalletised for the goods lift. The new CSL system looked to reduce both manual and truck handling activities, improve efficiency and accuracy of order picking.

Raising inbound goods to mezzanine level

Incoming goods are received at ground floor level and palletised loads are immediately decanted into in-house 25kg tote bins. These are sorted by area and upper floor bins are placed on to powered roller conveyor to automatically feed, via a compact spiral elevator, up to a first floor mezzanine for replenishment of stock located in shelving.

The latest space saving, compact column spiral conveyor provides a smooth, continuous high throughput and flow of product vertically between different floor levels, elevating or lowering as required. The simplicity of a spiral conveyor makes them a reliable and economic alternative, with many advantages over conventional methods as they require minimum maintenance, are energy efficient and cost saving. The versatile spirals can provide for off-line buffering between mezzanine and ground floor level or if required, a time delay can operate to support offloading for stock replenishment.

Order picking for despatch

In a different area of the mezzanine, parts are picked from stock and brought on trolleys to be unloaded onto powered roller conveyor and transported via a second spiral conveyor down to the ground floor. On reaching this level, the powered roller conveyor doubles back under the mezzanine floor for orders to be consolidated with parts picked on the ground floor. Totes accumulate on the conveyor prior to being removed for palletising and despatch.

Both the inbound and outbound spiral conveyors are reversible to provide for maximum system flexibility and reliability. Should there ever be a need to shut down one side of the system for maintenance, the other spiral could support both inbound and outbound operations.

Energy efficient conveyor system design

The powered roller conveyor can accumulate totes and the spiral conveyors provide buffering between floor levels and offloading stations. As totes are removed the conveyor automatically indexes and replenishes the station from next inline.

The conveyor system was designed with safety and energy efficiency in mind and incorporates remote 'Stop/Start' push buttons at the end of lines. Also, 'Sleep Timers' are strategically positioned throughout the system and will stop the accumulating zone rollers from powering up if no activity or totes are detected for a set period of time. A zone 'Wakes Up' when a product is detected in an upstream zone and then indexes boxes from one drive to the next. This feature increases component life, reduces operational noise and more importantly is energy saving.



For more information or to discuss a requirement, please call 01283 552255 or visit www.conveyorsystemsLtd.co.uk

