

All the nuts & bolts - Fully integrated Endoline Robotics palletising operation increases efficiency for global supplier of precision products

A fully integrated, robotic palletising line, created and installed by Endoline Robotics, has automated a previously manually intensive operation for a global leader in the supply of precision fastening and assembly solutions, while increasing efficiency and making considerable time savings.

The company, who supplies products including screws, nuts, and bolts to worldwide distributors, hardware stores and retailers, was seeking a robotic palletiser for one of its production lines packing a range of different fasteners.

With different carton boxes running on the line, the customer required a solution which would not only automate the entire labelling and palletising process and create a uniform stack of carton boxes, but also work with an inspection system to ensure that the correct boxes are palletised, leaving no room for error.

As a strategic partner of FANUC, Endoline Robotics commissioned its 1003 palletising robot. Featuring a FANUC M-710C/70 arm, Endoline specified a bespoke mechanical gripper to be fitted onto the system to guarantee the reliable pick of every box.

Demonstrating its engineering capabilities, Endoline Robotics integrated a Markem Imaje Print & Apply system into the line along with a bar code reader, all of which was fitted with software to make the line work seamlessly together.

At the start of the line, Endoline installed a pallet de-stacker for automatic pallet positioning. A manual operator delivers 12 pallets at a time to a full pallet conveyor which is then fed to the de-stacker. The robotic palletiser sends a signal to the de-stack every time it needs a pallet, and, when the pallet stack is empty, the system requests a new stack to be loaded.

At the same time, the filled boxes are transported on a powered roller conveyor through the labelling system and the bar code reader which signals that the correct contents are to be palletised. Endoline integrated a stopper into the conveyor for consistent labelling and reading of every box as well as a rejection system to reject any products that shouldn't be palletised. At this point, the waiting robotic palletiser lifts the box from the conveyor, onto a pallet.

When the palletising process is complete, the system delivers the finished pallet to the low level discharge conveyor.

Not only is the consistency of every pallet maintained, but Endoline also had to manage changes to the configuration of the stack when a new box size was introduced, rotating boxes 90 degrees for side-apply labelling. As Endoline Robotics' UK Sales Manager, Suraj Patel, explains: *"Two different box sizes were required to run on the line - a full size and a half size box. Boxes on the pallet need to be stacked so that the label was facing outward and, due to the size differences, the full size box was labelled on the shorter side, while the half size box was labelled on the longer side."*

The entire line has dramatically increased efficiency for the company and, due to the integrated software by Endoline, runs entirely self sufficiently without the need of human intervention.

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Suraj concludes: *“We are delighted that, through the installation of this line we have met and exceeded the customer’s objectives to increase efficiency and reduce the risk of manual errors, allowing the customer to redeployed employees to focus on less laborious tasks on the factory floor. The integration of all the equipment also ensures that every box is stacked neatly and contains exactly what is on the label.”*

“This installation is testament to the fact that Endoline Robotics, through our engineering capabilities and partnerships with FANUC and other OEM’s can create a bespoke, robotic solution which directly meets the needs of our customers.”

End

Images below with captions:



Image 1: Endoline’s robotic palletising solution features a FANUC M-710C/70 arm and a bespoke mechanical gripper to guarantee the reliable pick of every box



Image 2: The fully integrated, robotic palletising line, installed by Endoline Robotics, has dramatically increased efficiency while cutting time for the company

Press Release issued for Endoline Robotics

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