

MACCO boosts productivity and innovation in packaging lines with OMRON SCARA i4L robot

Optimizing packaging processes for cosmetic, pharmaceutical, and nutraceutical products.

MACCO, a leading manufacturer of packaging machines and automation systems, has integrated the OMRON SCARA i4L-550L Robot into their cosmetic, pharmaceutical, and nutraceutical packaging lines to increase productivity and speed up processes. By doing so, MACCO aims to design and market increasingly innovative products that optimize operating time by reducing machine downtime and facilitating the operator in their supervisory role.

The main advantage of using the SCARA i4L-550L robot is that it can further increase productivity by speeding up processes while maintaining flexibility. This allows MACCO to adapt to different cycles, products, batches, sizes, and orientations without impacting operational costs. Additionally, the robot can replace the operator during repetitive and wearing phases, such as inserting bottles into pucks (a plastic containers used to hold individual products, such as bottles or vials) or inserting caps and/or pumps into the bottles themselves, which guarantees better physical and mental health for the operator and avoids bottlenecks in the production line.





The SCARA i4L-550L robot has been integrated into the MACCO „IN-LINE/S“ module at the beginning of the production process of the multiformat filling and capping line, model „MRT-2-1/EL“. Moreover, MACCO has used an **OMRON MicroHAWK F430 Smart Camera**, including AutoVISION software, 5-megapixel sensor, autofocus and alternative LED configuration. It is a space-saving and easy-to-use solution for format control, presence control, orientation verification, and small quality checks on the integrity of the bottle/jar. For better functionality between machines, visualization of the vision analysis has been integrated within the HMI interface.

The SCARA i4L-550L robot's versatility, compact size, and ease of programming have allowed MACCO to develop multiple applications suitable for all machines and lines that require this type of upgrade. The „MRT-2-1/EL“ line

works with both stable and unstable bottles/jars, thanks to the use of open pucks with standard bases and modular side arms. It can process semi-dense, dense, liquid, and foamy products with volumes from 2ml to 1 lt, thanks to volumetric dosing units driven by brushless motors and „follow-up“ or static anti-drip nozzles.

Furthermore, the capping station has a universal gripper that allows handling any type of cap (screw, ball, pumps, mini-trigger, dropper, and safety caps). The brushless motor makes it possible to control the tightening torque. During the development of this machine, MACCO relied not only on OMRON's high-performance products but also on the support and advice of OMRON specialists. They collaborated with MACCO technicians from the design phase to the start-up of the machine.

About MACCO

Macco is a leading manufacturer of packaging machines and automation systems for the preparation and packaging of cosmetic, pharmaceutical, and nutraceutical products. Founded in 1987, the company began as a revision and maintenance service for packaging machines and evolved into a manufacturer in the early 1990s. In 2016, Macco acquired a new production area, enabling it to broaden its development and expand internationally into markets such as Europe, Canada, the United States, Brazil, India, Israel, and Africa. The company's philosophy is based on the design and implementation of innovative, reliable, and highly versatile solutions, providing machinery that enables customers to respond rapidly to market demands. Macco offers a range of services to the Cosmetic and Pharmaceutical industries, including consultancy for the design of new plants and production sites, technical assistance, accessories and spare parts, used machine revision with „re-made in MACCO,“ technical personnel training, Industry 4.0, and Factory 4.0. Macco is proud to provide a 100% MADE IN ITALY - 100% MADE IN MACCO production. For more information, please visit the website at <https://macco-srl.it/>.

About OMRON

OMRON Corporation is a world leader in the field of automation, operating in sectors ranging from industrial automation, automotive components, electronics and mechanical components to healthcare, social systems, solutions and services. Founded in 1933, OMRON has around 30,000 employees worldwide, working to provide products and services in more than 120 different countries. OMRON is dedicated to improving the well-being of society by offering technologies that stimulate innovation in areas such as manufacturing, products and customer service. For more information, visit <https://industrial.omron.eu>