

CASE STUDY

OMRON



Omron's Sysmac Platform Helps ZimaPack Meet the Flexible Demands of Today's Packaging Market

Ready, Set, Fill!

As any processor knows, claims made on labels are heavily regulated by national net content legislation. This means that a brand's reputation is in danger if under-filling occurs. But what if unnecessary over-filling occurs? Industry experts estimate the cost of over-filling can be up to 10% of total product cost.

"To mitigate damage to brands and to negate the cost of over-filling, ZimaPack guarantees a filling precision of Sigma 1 = +/- 1 g on 1,000 g. And we do this through our Residual Correction and No Container, No Fill features," says ZimaPack's Director of Manufacturing, Mario Marannano. "Because of the speed of the Omron NX7 machine automation controller, we are able to provide this level of precision, which saves customers from unwanted product giveaway and depending on the application, customers can experience payback on their investment in as little as six months," includes Marannano.

Marannano continues, "With the Residual Correction feature, a high-precision Omron NX load cell module, with digital filtering for stable measurement, electronically weighs the container on a continuous basis while the pneumatically-activated filling valves are open." After the Omron NX7 machine automation controller has sent a command to stop filling, there is typically a small amount of product, or residual, that has not yet reached the container. The NX load cell module weighs the container one last time before it exits the filling station and the NX7 machine automation controller calculates how much product was still traveling from the valve to the container after it stopped releasing product. The next container that enters the station will be filled with the residual product, a process that is recalculated in the

NX7 machine automation controller each time a container enters and leaves the filling station.

All machines are also equipped with the No Container, No Fill feature, meaning that if a filling station is missing a container, the filling valve will not release product. ZimaPack machines use the Omron E3Z compact photoelectric sensor with built-in amplifier to detect bottle presence, providing precise and repeatable position feedback - which is important for customers with challenging applications. For further peace of mind, ZimaPack designs and maintains reject systems for their machines to ensure product integrity, catching missing, crooked and otherwise compromised caps.

The E3Z-series is one of Omron's most popular sensors at over one million sold worldwide per year.

Recipe for Success

Operators can create custom recipes of any desired fill weight and tolerance as well as for any application. With one touch on Omron's NA HMI, operators can access preset parameters for any given recipe. The NX7 machine automation controller will verify correct settings on the net weight filling and capping machines, ensuring nozzle tips, bottle sizes, cap sizes and products are correctly loaded before proceeding with production. This eliminates scrap or waste while stabilizing profitability. Management can also create security access levels for different operators and users, adhering to CFR regulations.



ZimaPack designs and manufactures flexible net weight filling and capping machines throughout North America, Latin America and Europe - serving the food and beverage, chemical, pharmaceutical, nutraceutical, personal care as well as home care markets.

ZimaPack integrates Omron's NX7 machine automation controller, Sysmac platform and the MX2 inverter to design CIP (clean-in-place) machines with features that are futuristic, with parts that are easily interchangeable such as nozzle tips for different viscosity applications, one-touch tool-less recipe change-overs, reject systems to ensure product integrity and secure access for remote troubleshooting. And with 495% growth in the past year, it's no wonder ZimaPack's machines are filling up the market!



Changing It Up

ZimaPack has redefined the meaning of 'tool-less quick change-over.' What exactly does that mean for ZimaPack customers? "It means change-overs are now simpler than ever with quick-release parts that can be inserted and removed without the use of tools. All change parts are color coded and can be engraved with bottle descriptions," clarifies Adriana Zimbardo, Director of Sales and Marketing for ZimaPack. Check out ZimaPack's YouTube channel to see their technicians perform a quick change-over as well as other videos of the company's machines in action.

The company even makes interchangeable nozzle tips to accommodate different application attributes, such as viscosity, anti-foam, etc. on the same net weight filling and capping machine. "Capping heads can accommodate a wide range of caps including press-on, continuous-thread, mini-trigger, pouring, sprayers and dispenser pumps just to name a few," says Zimbardo. This is great for companies that process more than one type of application, but do not have the space for multiple dedicated machines. The interchangeable nozzle tips are also widely used in co-packaging facilities where floor space is at a premium and change-overs are frequent.

Staying Connected

Built-in remote troubleshooting allows a ZimaPack technician to quickly and securely access a machine via a virtual private network (VPN). With a diverse group of technicians at hand, speaking in English, Spanish and Italian, this avoids costly technician visits to the customer's site and long periods of production downtime. "We save our customers an average of 70% when the Remote Access feature is activated," states Zimbardo.

This feature is especially beneficial for ZimaPack's Monoblock customers. ZimaPack creates Monoblock machines specific to their customers' needs. "Monoblock machines can incorporate any combination of rinsers, fillers, cappers and sealers," explains Zimbardo.

"In the complex environment of a Monoblock machine, remote troubleshooting keeps multiple functions of a production line in operation with minimal disruption to downtime."

All Bottled Up

ZimaPack provides solutions for complete lines, with a focus on designing and manufacturing net weight filling and capping machines that are simple to operate and maintain. Whether looking for a net weight filling machine, a capping machine - including rotary cappers, linear cappers and single-head cappers - or a combination machine, such as ZimaPack's Monoblock, their dedication to world-class performance has developed into a close relationship with Omron, where they can incorporate the latest technology and execute research and development for their futuristic machines.

For more information on ZimaPack's net weight filling and capping machines and their Monoblock combination machines, visit zimapack.com.



Omron Automation is a leading global provider of machine safety and automation solutions, with more than 80 years of service experience in the controls and sensing business. Our customers can rest assured the automation strategy developed will meet the needs of today and include pathways for practical expansion and modification to address the many challenges of the future.

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