



SOFT ROBOTICS SOLUTIONS

Customer Application Notes

THE APPLICATION

Fully automated production of fresh dough including the transfer of dough balls from the rounder to shipping trays.

CUSTOMER'S NEEDS

This customer produced a wide range of variably sized, freshly made dough balls that needed to be handled at high speed to meet process rate requirements. This customer had been working with a conventional method of material transfer for some time but wanted to decrease the machinery footprint in new facilities, as well as improve the accuracy of product placement. A critical requirement for success was to ensure that any new handling process did not leave tool impressions or other visible imperfections in the very soft dough, while meeting the aggressive rate requirements. As a result, traditional vacuum and mechanical end effector technologies were unsuitable.

PRIOR PROCESS

The existing automated process involved the transfer of dough balls from the rounder(s) to shipping trays using reciprocation technology. The dough balls exited the rounder onto a series of standard and reciprocating conveyor belts which then transferred and deposited dough balls into fixed patterns on the shipping trays. In facilities not employing the reciprocation technology, the product was transferred manually.

SOLUTION

ABI LTD. designed and integrated a sanitary design, high speed, pick and place system utilizing Soft Robotics end-effectors which resulted in precise placement while also leaving no visible markings on dough balls. The system employs four, vision-guided, ABB IRB 360 Flex Picker robots with Soft Robotics' bakery grade end of arm tooling to achieve a final production rate in excess of 70 items per minute, for a total per hour production of 4200 per robot.

INDUSTRY

Bakery

AUTOMATION CHALLENGE

Fresh Dough Handling

CUSTOMER

Global Retail Pizza Company



INTEGRATION PARTNER

// Through our partnership with Soft Robotics, we were able to offer a more advanced and efficient solution to our global retail pizza client, designing a customized robotic system which allowed us to automate this challenge at high speeds.

— Alex Kuperman, President & CEO
ABI LTD, Richmond Hill,
Ontario, Canada