

Raising The Bar

Harry London Candies of North Canton, Ohio has been manufacturing high quality chocolates and other gourmet confections since 1922, when Harry London, a steelworker, left his job at the local mill and began making family recipes by hand in his own kitchen. Over the years, Harry London Candies has progressed from these humble beginnings to become a world class provider of luxury candies while retaining the London family traditions of high standards and the purest ingredients.

The company recently developed a new way of delivering its sweet treats to consumers. Called the “Baton Bar,” this innovative product format for chocolate bars has unique dimensions: a long (175 mm), cylindrical shape. However, the new format presented significant challenges for Harry London. The company recently received a large order of 1.5 million bars from a national retailer and its existing equipment was unable to process and package Baton Bars at adequate speeds.

A Multifaceted Challenge In searching for a packaging solution, Harry London’s chief concerns were speed and equipment that could handle the unusual shape of Baton Bars. A flexible solution was also an important requirement. The company’s extremely broad product portfolio—from chocolate bars to buckeyes and candy clusters—necessitated equipment that could easily shift between different product parameters. To ensure maximum return on investment, Harry London required a line concept that could accommodate numerous product formats.

More specifically, from a product flow point of view, Harry London required a conveying and infeed solution to transport product from a molding line into a wrapper. Additionally, many of the company’s products require the insertion of backing cards prior to primary packaging. **Finding A Solution** Harry London turned to Bosch Packaging Technology of New Richmond, Wisconsin to obtain a customized solution to meet its needs. The company provided an infeed conveyor, a card sheeter, and a horizontal flow wrapper that accounted for Harry London’s requirements in one integrated line. Critically, the line concept was able to handle the unique demands of Baton Bars yet flexible enough to run a wide array of other products with minimal changeover time required.

Infeed: Speeding Things Up Prior to the installation of the Bosch line, Harry London was manually feeding Baton Bars into an older wrapper at 60–65 products per minute. With Bosch’s solution, speeds increased to 250 products per minute (ppm) for Baton Bars and up to 400 ppm for smaller products. The first step in the line is the Low Pressure In-Line Three Belt Feeder. This unit is integrated directly with the molding line that forms the candy. Product coming from the molding line is oriented into a single file and then metered into the infeed flight of the wrapper. The infeed conveyor is a high speed stainless steel design engineered specifically

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for sticky, fragile, or irregular products.

The servo-driven machine automatically adjusts the length of belt conveyors depending on product supply, ensuring consistent product flow into the horizontal wrapper. Numerous recipes can be programmed, switching the conveyor between light contact and no-contact mode to enable different products to be run on the same machine. The conveyor also features a photo eye for controlling wrapper speed based on product backlog. Settings for upper and lower wrapper speed limits and automatic start/stop ensure smooth product flow and prevent mistakes and stoppages that increase downtime or damage product.

Card Insertion Module: Ensuring Stability Many of Harry London's confectionery products include a backing card or "U" board, which gives product packaging a more stable structure. Bosch's product portfolio includes a Card Sheeter for this very purpose; however, for this particular project Bosch custom altered its standard in-line sheeter, switching from a 180 degree insertion angle to a 90 degree insertion angle. This alteration enhanced the control and efficiency of the module and allowed for higher speeds.

The Final Touch The final step in the line is Bosch's Linium 301 Horizontal Flow Wrapper. Products enter the wrapper from the infeed conveyor, and the wrapper uses flat wound roll stock film and creates a complete overwrap around the product. After products are fed into the machine from the infeed, a former forms film around the product, a longitudinal "fin" seal is created, and the ends of the packages are sealed and cut apart.

The versatile wrapper can run various types of packaging material to account for different products: eye-spot, non-eye-spot, heat seal, and cold seal. Pre-programmable product set-up is available for up to 20 product recipes to store parameters for packaging length, speed, crimper dwell, and product position. This, along with minimal change parts and adjustments, ensures quick changeover, an especially important concern for Harry London given its diverse product line. Sizes range from the 175 mm Baton Bar to confections as small as 35 mm. This wrapper is equipped with a cutting head that can quickly change between two crimpers (for long pieces) and four crimpers for short products.

In addition to flexible technology, Harry London sought a compact, easy to clean machine. The Linium 301 is easily washed down: the product area is cantilevered off of the main frame so debris falls through or is easily cleaned. A small footprint ensures for production layout flexibility and the optimal use of factory space.

With the considerable emphasis on flexibility and changeover, uptime optimization was an additional performance parameter that had to be met. Bosch's wrapping equipment included software features designed to keep production running and diagnose problems in process, reducing the chance of jams and speeds recovery when jams occur. For example, a "no product - no bag" function ensures no wrapping material is applied if product flow stops, while a "no gap - no seal" function inhibits the action of the sealing mechanism if product occupies the sealing area. Date coding application, previously manually applied, was also automated

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with the wrapper.

One-Stop-Shopping Approach The full line — infeed conveyor, card sheeter, and wrapper — was installed in late June of 2008, and integrated directly with the chocolate molding line. Linking it with the product flow minimized labor costs, as previously infeed was performed manually. The increased speed also reduced the number operators necessary to run the line.

With the speed and efficiency offered by an automated, integrated solution, Harry London was able to successfully bring its Baton Bar to market.

“Given the unique challenges of this product, we were fortunate to be able to rely on the expertise of Bosch to provide a customized solution,” said Matthew Anderson, COO of Harry London. “The flexibility of the line was crucial. Since we have such variety in our portfolio, we wanted to obtain maximum return on our investment and have the capability to switch between different applications as operations or market conditions warrant.”

A critical advantage to Harry London was Bosch’s “one-stop-shopping” approach, emphasizing reliable solutions for the entire value-added chain and designed to optimize production processes and significantly reduce total operating costs. This enables Bosch to provide cost-transparency for the entire life cycle of the equipment, an important feature for investment projects involving capital equipment acquisition.

The new line began operating on July 10, 2008 and their Baton Bars have been met with considerable success. Says Anderson: “After an exceptionally smooth installation and checkout, we were up and running, packaging our new bar on Bosch’s equipment.”

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