

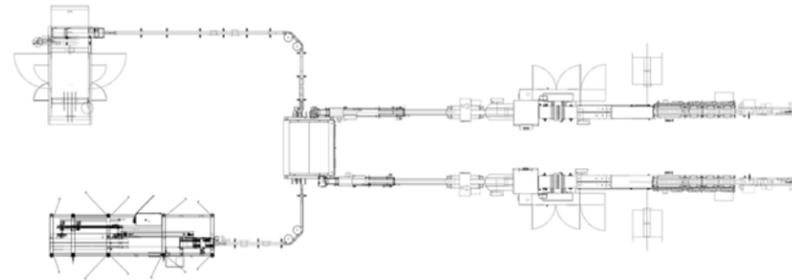
Cup Cake Packaging full-line solution created by Bosch

Challenge

Automate a bakery's packaging line of approximately 575 cup cakes per minute from the oven through cartoning utilizing only two operators. The cup cakes needed to be overwrapped in a two per pack configuration and then placed 6 to a carton.

Solution

Bosch provided a completely integrated packaging line consisting of two flow wrapper legs with integrated card sheeters. Once the cakes left the oven, Bosch arranged and singulated the flow of cakes for entry into the flow wrapper infeed. Wrapped cupcakes from both legs were then fed to a dual lane Presto delta robot where they were loaded into cartons. The cartons were formed by a 7510 carton former and closed on a TSC-090 tri-seal closer.



Benefits

- ▶ Space saving in-line floor plan.
- ▶ All key packaging machines manufactured and integrated by Bosch. This provided one contact point with responsibility for entire line and lowered the customer's project management costs and eliminated the integration risk.

- ▶ Split infeed chain on Presto robot allowed one operator access to both wrappers and robot HMI, allowing the second operator to run the carton former and closer.
- ▶ Line communication provided signal to divert cup cakes when downstream stoppage was detected. This eliminated the need for operator intervention upstream during stoppage so that the operators could focus on clearing downstream stoppage.



Bakery Packaging
Solutions for Every Size Bakery

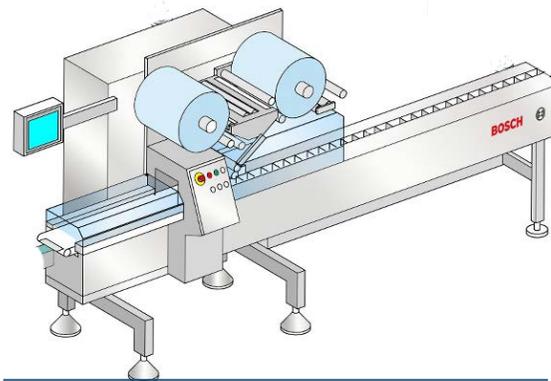
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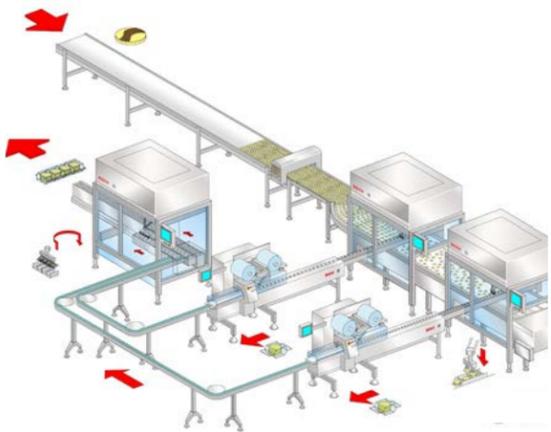
Meeting bakers requirements



Packaging machinery for baked goods must meet the requirements for sanitation, gentle handling, and rapid changeovers that modern bakeries demand. Bosch offers a wide range of solutions for primary and secondary packaging that are designed to these requirements. The long history of our Dobby line of wrappers and bag sealers, which began in the 1930's, has resulted in an unparalleled understanding of the handling and packaging of these unique food products. Bosch equipment is optimized to handle the special characteristics of bakery products.



Bosch's Module++ concept provides flexible packaging solutions that grow with you. From stand alone packaging machines to fully automated line solutions.



Solutions for every size bakery

From small, family owned bakeries to large, multi-national companies, Bosch's packaging machine portfolio offers solutions for every scale. Our standard, modular machines can be operated independently, or integrated with other packaging machines to form fully automated lines. We call this flexible automation concept Module++. It allows you to easily add automation as you grow, or redeploy assets for new packaging lines as needed. This helps guarantee the best return possible on your investment regardless of how your needs change. A good example of Module++ automated line is described in the case history on the back.

One - stop - shopping

Bosch's large product portfolio is unique in the industry and provides you a single source for many of your packaging needs, including after sales service and support.

- ▶ Bag Sealers and Closers
- ▶ Horizontal Flow Wrappers
- ▶ Vertical Form - Fill - Seal (VFFS) Machines
- ▶ Delta Robotics
- ▶ Carton Formers
- ▶ Carton Closers
- ▶ Product Handling
- ▶ Case Packers



Entry level packaging

Small to mid-size bakeries require packaging machines that are easy to operate and maintain, and flexible enough to handle a diverse product range. Bosch's bag closing line and entry-level flow wrappers are ideal for these types of operations. They provide bakeries flexible packaging automation in a small footprint, with minimal investment. Bosch's entry level machines are built to the same high standards as our more advanced machines and in fact share a number of the same production proven components guaranteeing users a long lifetime.

Bag Sealers

Bosch offers bag closing options under its Dobby brand for both paper and plastic pre-made bags. Paper bags, common with bakery product such as donuts, are efficiently closed and glued with the Dobby GS-1000. This high-speed bag closer creates a strong sift-proof double fold at a rate up to 75 bags per minute. Plastic bags, including popular stand-up and gusseted bags, are easily heat sealed with one of Dobby's band sealers. The Dobby band sealer portfolio starts with the compact table-top model, HS-CII, and extends to the CBS-D, designed for 3-shift operation. Dobby band sealers are known for their quality craftsmanship and reliable options.



Bosch's bag closing line and entry-level flow wrappers are ideal for small to mid-size bakeries.

Horizontal Flow Wrappers

Entry level flow wrappers from Bosch are unlike other flow wrappers in their class. To increase flexibility and uptime, they utilize the same servo motor and PC technology found in high-end flow wrappers, but at an economical price. This results in superior package quality and software features that save you labor and increase your operational efficiency. The Pack 101 flow wrapper is Bosch's best selling entry level wrapper and a favorite with small to mid-sized bakeries. It builds on the long legacy of Dobby wrappers in bakery operations and is unmatched in its flexibility and operational robustness.

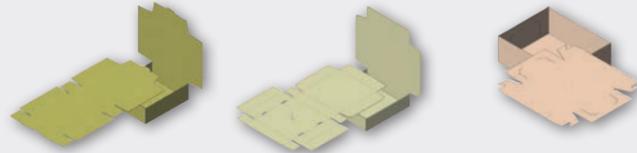


Flow Wrapping: Module++ Automated Line Solutions

Efficiently and economically automate your packaging from oven to box. Bosch's flow wrapping capabilities extend from product handling, to wrapping, to secondary packaging. Our flexible Module++ concept allows you to automate all of your line today or only parts of it and then add automation in the future as your business grows.



Carton Forming & Closing



Hot Melt Simplex Lock

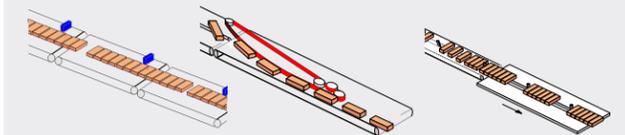
- ▶ Accommodate a wide range of blank formats, material types, and speeds (35 cpm - 140 cpm)
- ▶ Servo controlled for quick changeovers and reliable operation

Horizontal Flow Wrapping



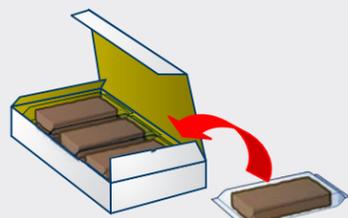
- ▶ Full range of automation levels; from manual hand loading to fully automated high speed wrapping
- ▶ Adjustable or quick change formers for fast product changeovers
- ▶ Tool-free removal of deck and side plates for easy cleaning and maintenance access

Product Handling



- ▶ Crumb trays and belts removed without tools for fast, easy cleaning
- ▶ Non-contact feeding options for delicate products

Robotic Carton Loading

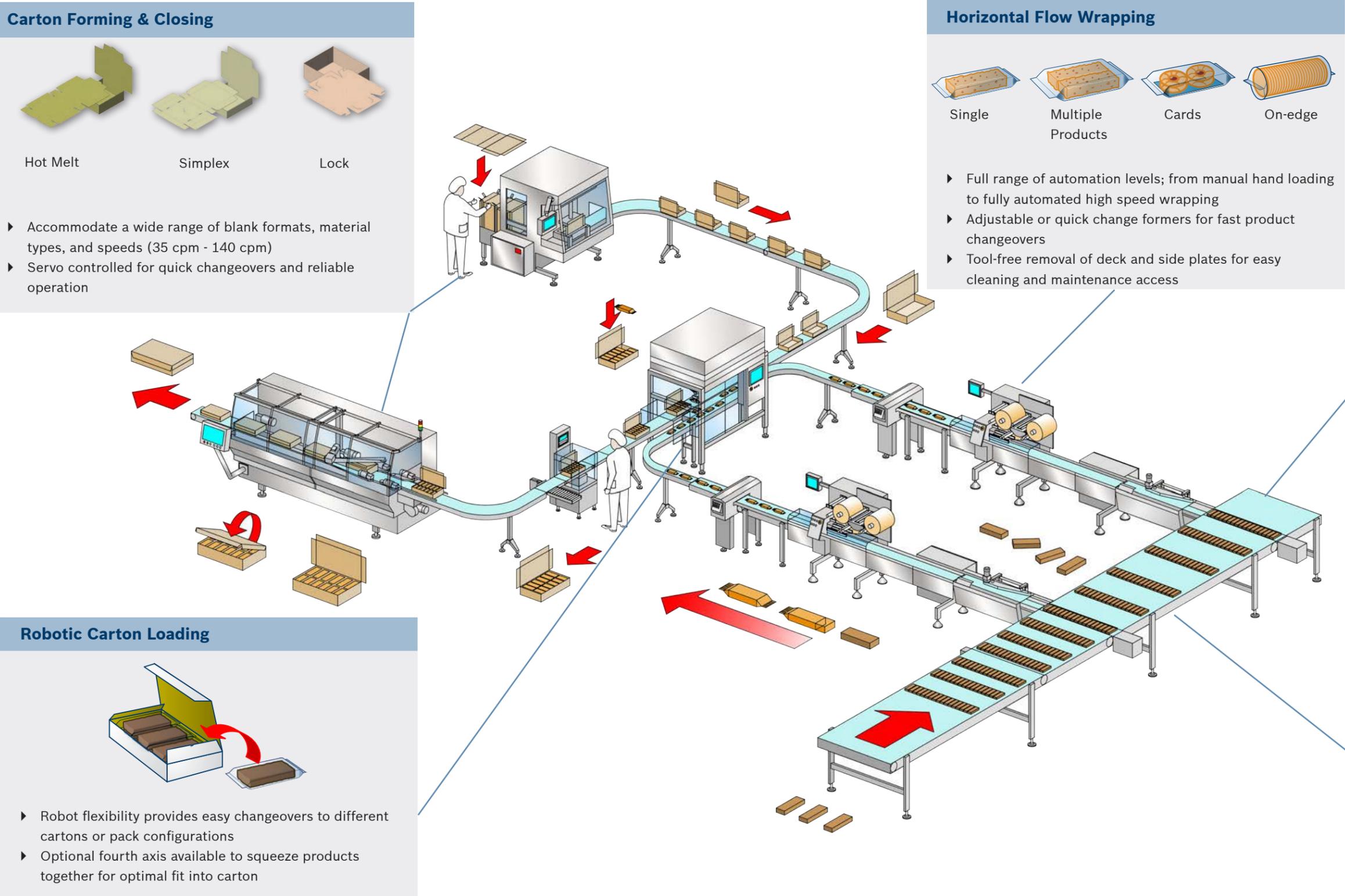


- ▶ Robot flexibility provides easy changeovers to different cartons or pack configurations
- ▶ Optional fourth axis available to squeeze products together for optimal fit into carton

Robotic Feeding Alternative



- ▶ Ideal for automating lines handling multiple product configurations
- ▶ Custom designed end effector technology for delicate product handling
- ▶ Industry leading robot control software makes using robotic automation simple
- ▶ All product contact points can be washed down for fast, easy cleaning



Vertical Form-Fill-Seal: Module++ Automated Line Solutions

Efficiently and economically automate your packaging from oven to box. Bosch's VFFS capabilities extend from bagging to case packing. Our flexible Module++ concept allows you to automate all of your line today or only parts of it and then easily add automation in the future as your business grows.

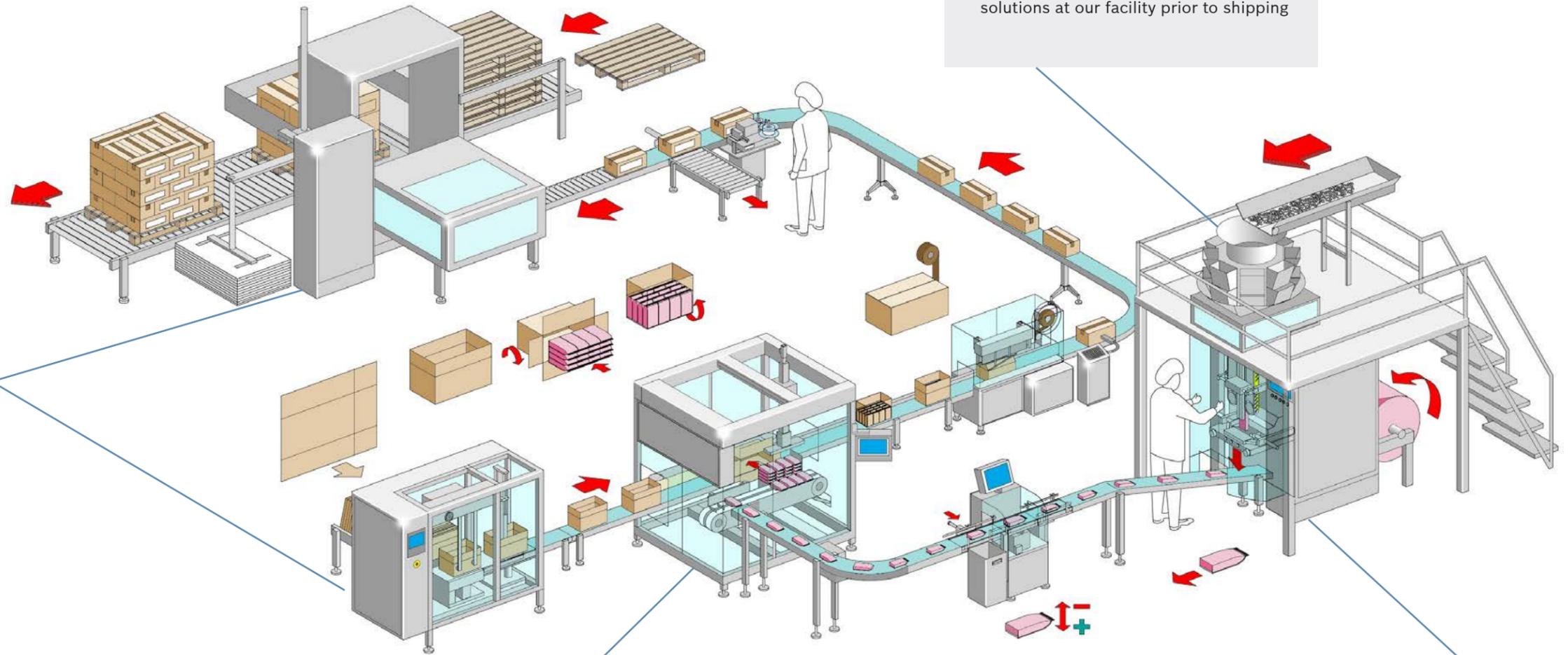


VFFS Feeding

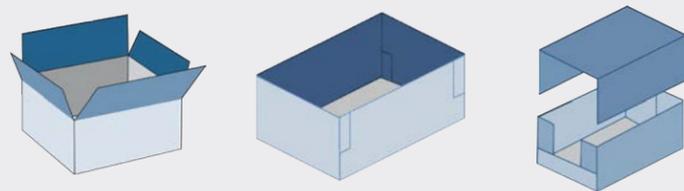
- ▶ Scales, augers and cupfillers easily integrate with Bosch baggers
- ▶ Bosch tests and optimizes complete solutions at our facility prior to shipping

3rd Party Equipment Integration

- ▶ Bosch will integrate machines from outside companies as necessary to help you manage the overall project
- ▶ This means lower coordination and project costs for you and eliminates the risk of challenging integrations



Case Packing



- ▶ Flexibility to load bags in a horizontal (lay flat) or vertical (stand up) orientation
- ▶ Wide format range for bag and case sizes and styles
- ▶ Can handle RSC (regular slotted container), HSC (half slotted container) and Shelf Ready Packaging

Vertical Form Fill & Seal

- ▶ Unmatched package style flexibility
- ▶ Industry leading speeds with Bosch's continuous motion technology
- ▶ Proven Bosch film handling and sealing systems for superior package appearance
- ▶ Open frame design allows easy access for production and maintenance personnel
- ▶ Easy integration with dosing devices, gas flushing, printers and labelers

