

## Technology that makes sense

Sponsored by Hinds-Bock Corp.

**Q: How has technology affected depositing and filling equipment?**

**A:** With respect to depositing and filling equipment, the greatest impact technology has had is with the controls. Through the years, technological advancements in controls have driven the cost down and greatly increased the acceptance of programmable logic controllers (PLC), operator interfaces, plant-wide interfaces and servo motors. Through this technological leap, depositing and filling machines run faster and are easier to troubleshoot, sequence and control. This improvement in technology led to more sophisticated depositing and filling machine integrations than would have been practical years ago with outdated mechanical and air pilot controls.

**Q: How can depositors handle delicate filling operations, such as those used for pie fillings?**

**A:** Depositors for products containing large, soft particulates must have large product flow paths. The flow paths must be smooth with gentle internal radii, and the product flow path must be as short as possible with no reduction in diameter or area.

**Q: What type of depositor is best used for filling products with particulates?**

**A:** Through the decades, piston depositors have been designed with the features mentioned above.

**Q: Describe how different types of depositors can handle a broad array of products from liquids to dry ingredients.**

**A:** Hinds-Bock depositors are very versatile in that they can run products as thin as water or brine to as thick as fruitcake batter, mashed potatoes or axle grease. Large ports and other features already mentioned allow Hinds-Bock depositors to accommodate large particulates, and all of these features give the machines a great deal of versatility. In addition, Hinds-Bock manufactures dry ingredient depositors and high-fat streusel depositors.

**Q: How can depositors and fillers be customized to accommodate lines with multiple product changeovers?**

**A:** Most U.S. bakeries use the same line to run multiple pans and products. Several key features allow the depositors to be rapidly changed over from one pan or product to the next. Quite often, machines are manufactured with positive shut-off spouts. The centerline of these positive shut-off spouts can be quickly adjusted without tools by simply moving a cam lever



and sliding the spout to the proper centerline. The automatic cycling controls integrate within the depositor's control platform and automatically adjust the pan pitch. This change is made by simply accessing the SKU number with the operator interface panel. The deposit weight can be adjusted manually by turning a handwheel, or automatically by pushing a button. Further automation is integrated with an upstream or downstream checkweigher.

**Q: How can depositors address lines that run at variable speeds?**

**A:** Variable speed lines typically are equipped with a shaft encoder, which feeds pulses to the PLC integrated within the depositor's control platform. As the conveyor speeds up or slows down, the depositor automatically adjusts its speed to match that of the conveyor. This is quite common on depositing lines where the spouts or the entire depositor travels with the pan or the target during the deposit cycle, which increases the speed of the depositing line and ensures clean deposits and proper deposit shapes.

**Q: How has automation of depositing and filling equipment improved production efficiency for bakers?**

**A:** The automation of depositing and filling equipment leads to a quantifiable improvement in uptime, increasing efficiency in

# ASK THE EXPERT

**Lance Aasness, vice president, sales and marketing**  
Hinds-Bock Corp.

yield for the bakeries that operate these machines. This uptime is typically tracked and documented. Modern depositors incorporate features for rapid sanitizing, which minimizes downtime between product changeovers. Modern controls speed up the troubleshooting process as compared to the older style of mechanical or pneumatic air pilot controls.

**Q: Describe the automated features that enable a muffin depositor to produce 18,000 lb. per hour.**

**A:** The largest muffin lines typically fill multiple pockets in multiple pans simultaneously, and the conveying and indexing of these pans is handled by a large, substantial conveyor. This conveyor uses controls that recognize each flight of the conveyor and sequences additional automation, such as tray placers, paper cup denesters, pan oiler, dry ingredient depositors and streusel depositors. These features include a PLC, pan sensors, shaft encoder and operator interface.

**Q: How are depositors and fillers meeting bakers' expectations for sanitary equipment?**

**A:** Depositers and filling machines are usually manufactured from high quality stainless steel and at times use food approved plastic or metal alloy parts. Institutional lines of bakery depositors include features that allow even the largest bakery depositor to be quickly disassembled for sanitizing in minutes without tools. Hinds-Bock machines incorporate tilting hoppers, quick remove piston strong-backs, tool-free product valve removal and tool-free rapid spout removal.

**Baking Management: What types of depositors and fillers does Hinds-Bock produce?**

**Lance Aasness:** Hinds-Bock manufactures a large family of both standard and custom designed piston depositing machines, as well as servo driven pump filling machines. In addition, Hinds-Bock manufactures dry ingredient depositors, streusel depositors, icing machines and complete custom depositing lines.

**BM: What are some of the latest depositors Hinds-Bock has developed?**

**LA:** Cupcake and mini-muffin lines are in high demand right now. We have developed customized equipment for these industries as well as pancake and waffle depositing lines.

1.) The cupcake depositing line, also can be used for muffins, smaller cheesecakes or small loaf cakes. It features two depositors. The first deposits the primary cupcake batter and the second depositor deposits a second muffin or cupcake flavor to make a two flavor cupcake or muffin. That second flavor might be cream cheese, fruit, chocolate or a ganache or it might be just a different flavored batter.

2.) The mini depositing line can produce mini-muffins and mini-brownies, which are very popular right now. They're popular when sold as bite-sized mini-muffins and brownies, and also when sold in a calorie-count packs. Because of this line's accuracy, it can consistently deliver the desired calorie count, for those who label it.

Both of these lines offer batter depositing, automatic papercup denesting, pan oiling, and dry ingredient depositing, such as nut pieces, sprinkles, oat flakes, sugar or corn meal.

3.) We also build depositors for pancakes, waffles and crapes, which integrate with griddle lines and can deposit particulate batters, such as for blueberry or chocolate chip waffles. The machine also moves with the griddle to allow for proper coverage of batter on the griddle. The depositors are high speed, so there is the possibility for some increased production.

**BM: What are some of the latest Hinds-Bock technological advances that benefit the baking industry?**

**LA:** Our new line of moist, high fat streusel depositors allow for the automatic depositing of high fat streusel, which typically tends to pack or bridge. This automatic depositor greatly reduces labor and increases both accuracy and speed. With all of our depositors we focus on the traditional, important features, which are accuracy, reliability, cleanliness, easy sanitation and up time.

**BM: How can I learn more about Hinds-Bock and its depositors and fillers?**

**LA:** Our website is loaded with information, including products, literature, videos and more. Please feel free to contact Hinds-Bock. We'd love the opportunity to speak with you. P: 877 292 5715 or 425 885 1183, F: 425 885 1492, E-mail: info@hinds-bock.com, Web: www.hinds-bock.com.

**For more information contact Hinds-Bock Corp.**  
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