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## **Berkshire Introduces New “Flip-Gate” Divider Assembly**

**The Berkshire Packaging Services Design Team is proud to introduce a unique divider assembly for use on 18” and 39” Slat Fillers.**

PRINCETON, MA, April 10, 2001 -- Customers using slat fillers have frequently expressed concern about the excessive clearances in the product drop area of the divider assembly. Our design team, working closely with one of our major customers, has designed, manufactured, installed, and tested a new divider assembly that addresses the areas of concern.

Customer feedback has been extremely positive from mechanics, operators, cleaning and validation personnel. They have reported successful testing and evaluation in production with small tablets. The primary goal of eliminating cases of over/under counts has been confirmed by Q.A and validation personnel. Operators and mechanics have expressed their approval of the rugged design and ease of cleaning.

If you have concerns with the existing divider assembly design you are now using, we are confident that you will realize immediate improvements with the use of this unique, new design.

The original machine design contains several areas where customer studies have shown that tablet migration can occur. These areas include the slat/divider interface and the tablet gate area. The tablet gate can rub against the dividers and the two air cylinders need to be adjusted to insure they work in unison. In addition, the standard “Quick-Change” style divider construction has been found by some customers to lack the ruggedness required for frequent changeovers and cleaning. Customers have also found that some tablet damage can occur due to the location of the stainless steel spacer located in the drop area as well as creating a site where tablets can be misdirected as they fall towards the bottle.

The BPS “Flip-Gate” was developed with significant customer input to address these concerns. The main features of the “Flip-Gate” are:

- One piece, rigid construction. The “Flip-Gate” replaces the separate drop point vacuum manifold by using a perforated back plate that securely locates the individual dividers. The assembly will not bend or twist. The entire assembly can be fitted properly in relation to the slats because it is not limited by the interference with the drop point manifold.
  - The “Flip-Gate” replaces the tablet gate with separate gates attached to a single shaft. There is no gap to accommodate a tablet gate. This is a critical area where small tablets have been known to migrate when the gate is opened. The tablets are contained between the dividers all
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the way to the chute. Clearances have been minimized to keep even the smallest tablets in the proper lane.

- The flip gates are mounted to a single shaft that is operated by a single rotary pneumatic actuator. The existing pneumatics for the tablet gate can be reused with the “Flip-Gate”. No changes to the machine programming are necessary because the flip gate is controlled by the same signals that operate the tablet gate. The actuator is watertight and washable, so it does not need to be removed for washing.
- The dividers are located by slots in the back plate and secured by a threaded rod. Because of this attachment mechanism, no spacers are needed in the critical tablet drop area. If it is necessary to replace individual dividers, they can easily be removed and replaced.
- The dividers, back plate, and flip gates are constructed from aluminum with a Teflon hard coat finish.
- The “Flip-Gate” is compatible with all existing chute sets. The “Flip-Gate” assembly includes new “transition” pieces to accommodate the longer dividers.

The photographs attached with this document show the following features and views:

- ◆ **Photo # 1 Flip Gate Front View:** an overall front view of an assembly designed for a 24 up configuration. *(The upper Lexan cover has been removed to reduce the glare from the camera flash.)*
  - ◆ **Photo # 2 Flip Gate Rear View:** an overall rear view showing the perforated back plate and divider attachment.
  - ◆ **Photo # 3 Flip Gate Rear Close Up:** Close up view showing the divider attachment, perforated back plate, and the individual flip gates.
  - ◆ **Photo # 4 Flip Gate Top View:** Front Lexan cover removed for clarity. This view shows the location of the stainless spacers and the individual flip gates.
  - ◆ **Photo # 5 Flip Gate Top Close Up:** A close up view of the assembly as seen from the rear, a “tablets eye view”, showing the back plate, dividers, and flip gates as viewed in the tablet path.
  - ◆ **Photo # 6 Flip Gate Actuator:** A view of the left end (as viewed facing the machine) showing the integral rotary pneumatic actuator. The open/close stops for the gates are in the actuator, so the gates do not strike anything in the arc of travel. The gates are designed to
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float side-to-side on the shaft and include nylon screws on each side to eliminate any metal to metal contact. This view also shows the fixed lower cover in place. A removable cover that interlocks with the lower cover is provided with the assembly as well.

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