Ars Automation Application notes

Case Study: a feeding solution for a lip gloss filling machine



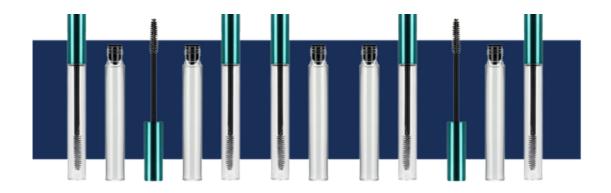
Industry insights

The cosmetics industry faces numerous challenges: market volatility, difficulty sourcing raw materials, lack of skilled personnel, increasingly tight time-to-market, shorter product life cycles, and variable batch sizes. The solution is to equip oneself with flexible production systems that can quickly respond to market demands. Quick tooling and efficient machinery are crucial for maintaining competitiveness, particularly in filling processes.

This case study showcases a high-performance production line for filling lip gloss bottles. The system is designed to handle transparent products and can be easily adapted to feed various similarly sized products.

Handled parts

Transparent and delicate lip gloss bottles.



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The configuration

The process starts with the bottles being transported to a hopper that feeds two FlexiBowls. The FlexiBowls® are used to supply a single robot for the orientation and positioning of the bottle. The first FlexiBowl acts as the primary feeder, providing the majority of the product, while the second FlexiBowl serves as a backup when the primary one makes a rotation move. The bottles' vertical orientation is precisely and accurately performed by a second robot.



Precision and Efficiency

This system is exceptionally versatile and can be easily adapted to feed almost any product similar in size to the bottles shown in the video. Moreover, thanks to the use of FlexiBowl, it is possible to feed different products, regardless of the type of material and surface treatment, such as shiny or metallic surfaces. The system can be used to feed brushes, pens, cups, tubes, applicators, makeup sponges, and many other products.

Technologies

The FANUC M-2iA/3SL robot picks and places the bottles horizontally. The FANUC LR Mate 200iD robot rotates the bottles vertically.

Key points











Cosmetic

Filling Process F

FlexiBowl[®] 800

Fanuc Robot

90 PPM