

Automated Bottle Cutter Machine with Conveyor Belt

Abstract:

The present invention relates to an automated bottle cutter machine designed for efficiently and safely cutting open sealed bottles. The machine employs a novel combination of a cutter and a conveyor belt, allowing for automated processing of sealed bottles without damaging the sample bottles or the contents within. The machine is constructed primarily of stainless-steel material 304 (it can also be using plastics, aluminium and other materials), ensuring durability and longevity. By utilizing this innovative technology, the machine eliminates the need for manual labour traditionally associated with bottle opening processes. Users simply load sealed bottles onto a sample tray, and the machine automatically feeds them onto the conveyor belt where the sealing tapes, labels, or adhesives are cut open. The machine can be easily controlled through a simple on/off switch, making it user-friendly and efficient.

Description:

The Customized Bottle Cutter Machine with Conveyor Belt is a revolutionary device designed to streamline the process of opening sealed bottles in various industries, including but not limited to pharmaceuticals, food and beverage, and laboratory research. The machine incorporates cutting-edge automation technology to provide a hassle-free solution for bottle opening tasks.

Key Features:

Automated Process: The machine's primary novelty lies in its automated process, which combines a cutter mechanism with a conveyor belt system. This automation eliminates the need for manual intervention, thus enhancing efficiency and reducing labour costs.

Versatility: The machine is capable of cutting open sealed bottles made from various materials, including plastic, glass, and metal. It effectively removes sealing tapes, labels, and other adhesives without causing damage to the sample bottles or their contents.

Stainless Steel Construction: The machine is constructed primarily of stainless steel material 304, ensuring durability, resistance to corrosion, and adherence to industry standards for hygiene and cleanliness.

Easy Operation: The machine features a user-friendly interface with a simple on/off switch for easy control. Users only need to load sealed bottles onto a sample tray, and the machine takes care of the rest, automatically feeding them onto the conveyor belt for cutting.

Safety: The machine is equipped with safety features to prevent accidents and ensure user protection during operation. This includes safety guards and sensors to detect anomalies and stop the machine if necessary.

Overall, the Customized Bottle Cutter Machine with Conveyor Belt represents a significant advancement in bottle opening technology. Its automated process, versatility, durability, ease of operation, and safety features make it an indispensable tool for industries reliant on efficient bottle handling processes.

Claims:

A bottle cutter machine comprising:

A cutter mechanism configured to cut open sealing tapes, labels, or adhesives on sealed bottles.

A conveyor belt system integrated with the cutter mechanism to automate the feeding of sealed bottles onto the conveyor belt for cutting.

Brush installed automatically cleans the knife after each cut.

Constructed primarily of stainless steel material 304 for durability and hygiene.

Operable through a simple on/off switch for ease of control.

Capable of cutting open sealed bottles made from plastic, glass, metal, or other materials without damaging the sample bottles or their contents.

The bottle cutter machine of claim 1, wherein the conveyor belt system is equipped with safety features to prevent accidents during operation.

The bottle cutter machine of claim 1, further comprising a sample tray for loading sealed bottles onto the machine.

The bottle cutter machine of claim 1, wherein the cutter mechanism is capable of self-rotation to ensure efficient cutting of sealing tapes, labels, or adhesives.

The bottle cutter machine of claim 1, wherein the machine is suitable for use in pharmaceutical, food and beverage, laboratory research, or other industries requiring efficient bottle opening processes.

The bottle cutter machine of claim 1, wherein the machine's automation replaces manual labor traditionally associated with bottle opening tasks, thereby reducing labor costs and improving efficiency.

The bottle cutter machine of claim 1, wherein the stainless steel construction of the machine ensures resistance to corrosion and adherence to industry standards for hygiene and cleanliness.

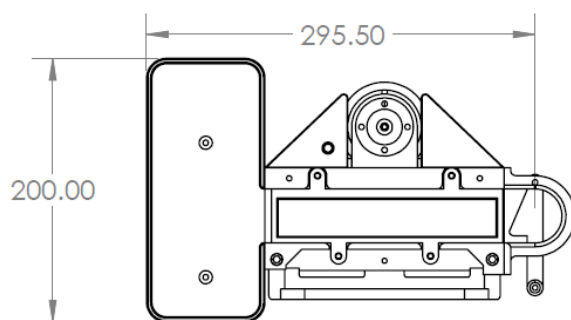


Figure 1: Top view of the automated bottle cutter

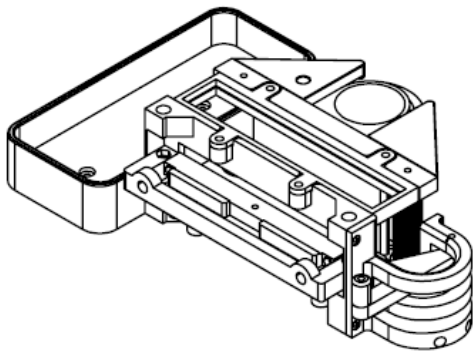


Figure 2: 3D view of the automated bottle cutter

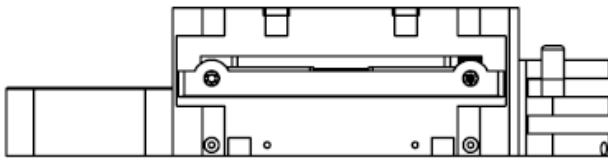


Figure 3: Front view of the automated bottle cutter