

Automatic High Speed Tube Filling and Sealing Machine



The High-Speed Fully Automatic Tube Filling and Hot Air Sealing Machine is an advanced, precision-engineered system designed to handle the rapid and efficient filling and sealing of soft tubes across a variety of industries, including cosmetics, pharmaceuticals, food, and household products. With its high-speed capabilities and fully automated workflow, this machine significantly enhances production efficiency and ensures consistent, high-quality output.

Automatic Tube Feeding and Positioning

The machine includes an advanced automatic tube feeding system that ensures smooth and accurate placement of each tube onto the rotary worktable. It uses precision sensors and alignment mechanisms to position tubes accurately, minimizing misalignment and ensuring each tube is in the perfect position for subsequent stages. This feature supports high-volume production without interruptions, reducing manual labor and maximizing uptime.

High-Precision Filling System

The filling unit is equipped with a high-precision dosing system capable of handling a wide range of product viscosities, from liquids to thick creams and pastes. The filling mechanism is controlled by servo motors, allowing for precise control over the fill volume and ensuring uniformity in every tube. Anti-drip and anti-foam features maintain a clean workspace and prevent wastage, supporting efficient, high-speed filling even in continuous operation.

Hot Air Sealing Technology

The machine utilizes advanced hot air technology for tube sealing, ensuring an airtight and robust seal that preserves product integrity. The heating system pre-heats the tube ends precisely, softening the material to prepare it for sealing without compromising the tube's appearance or structure. Temperature controls and adjustable air nozzles enable optimal heating for various tube materials, ensuring a consistent and professional finish.

Chiller

The chiller helps maintain the integrity of soft tubes by cooling the outer surfaces during high-temperature sealing processes. By circulating chilled water, the chiller prevents tubes from deforming or melting due to excessive heat, ensuring a clean, high-quality seal every time. This feature is essential for high-speed operations where precision and tube appearance are critical.

Sealing and Trimming System

Once the tube ends are heated, a sealing mechanism compresses them to form a secure, leak-proof seal. The trimming unit then cuts away any excess material, leaving a neat and consistent finish on each tube. This system ensures a visually appealing, high-quality output while preventing leaks and ensuring durability during storage and transportation.

Integrated Coding Function

The machine includes an optional coding function to mark each tube with essential information, such as batch numbers, production dates, or expiration dates. This can be done through inkjet, laser, or embossing methods, depending on the application's needs. Coding supports regulatory compliance, traceability, and quality assurance.

User-Friendly Touch Screen Interface

An intuitive touch screen control panel provides operators with real-time access to all machine functions and settings. The interface allows for easy adjustments to filling volume, temperature, sealing pressure, and other parameters. It also features troubleshooting alerts, diagnostic data, and maintenance reminders, facilitating easy operation and minimizing downtime.

Robust Transmission System

The machine's transmission system uses high-quality gears, belts, and motors for stable, synchronized operation across all components. This system ensures seamless coordination between feeding, filling, sealing, and ejection stages, optimizing overall performance and reducing wear on machine parts, thereby enhancing longevity.

High-Speed Production Capabilities

Designed to support high-speed production lines, this machine can handle large volumes of tubes per hour without compromising quality. Adjustable speed controls allow operators to customize production rates to meet varying output demands, supporting flexibility and efficiency across different product types and batch sizes.

This high-speed, fully automatic tube filling and hot air sealing machine is an ideal choice for manufacturers seeking high-precision, durable, and efficient equipment capable of handling large-scale production with consistent quality.

Parameter

Tube type:	Plastic tube, Multiple tube
Filling range:	A.6-60ml, B.10-120ml, C.25-250ml
Sealing type:	Heating sealing
Capacity:	3600-7200 tubes/hour
Number of work positions:	12
Safety protection:	overload protection
Filling nozzle:	Anti-drop
Filling accuracy:	±1%
Sealing shape:	Flat tail, curved tail, special-shaped tail
Applicable tube diameter:	12-50mm
Applicable tube height:	50-250mm
Automatic detection function:	No work without tube
Tube loding:	Automatic
Air pressure:	0.5-0.7Mpa
Air comsumption:	0.3m3/min
Power:	6KW
Voltage:	380V/50Hz
Air consumption:	3-5m³/min
Machine size:	3270×1470×2000mm
Machine weight:	2200kgs