Full-automatic Spray Liquid Aerosol Filling Production Line Filling Machine

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The customized full-automatic spray liquid aerosol filling production line and filling machine is a set of filling equipment that integrates multi-process automation functions, designed to meet the personalized production needs of spray-type liquid aerosol products (such as disinfection sprays, cosmetic sprays, pharmaceutical aerosols, etc.). Its core features lie in "full automation", "customization" and "production line integration". The following is an explanation from the aspects of customization direction, core configuration, application scenarios, etc.:

I. Core Customization Directions (Adjusted According to Product Characteristics)

1. Customization for Material Adaptability

- For spray liquids with different viscosities (such as water-based, oil-based, suspension liquids, etc.), the filling system is customized: piston or gear pump filling is used for low-viscosity materials, and heating and heat preservation devices and screw pumps are equipped for high-viscosity materials to ensure smooth filling without residue.
- For different propellant types (such as liquefied gas, compressed gas), explosion-proof inflation heads and pressure control systems are customized to adapt to the pressure resistance requirements of different aerosol cans (such as aluminum cans, iron cans).

2. Customization for Can Type and Specification

- It supports quick switching of multi-specification cans (diameter 20-100mm, height 50-300mm). By replacing modular components such as can sorting tracks, filling heads, and sealing molds, it can meet the production needs of different capacities (10-1000ml).
- For special can types (such as special-shaped spray cans, cans with pre-installed valves), the guiding structure and positioning device of the can sorting machine are customized to ensure stable conveying of cans.

3. Customization for Process Integration

It can integrate the whole process according to production needs. Common customized modules include:

- Front-end: full-automatic can sorting machine (for directional arrangement of empty cans), can mouth cleaning (dust removal / disinfection);
- Core: quantitative liquid filling (accuracy ±0.5%), automatic feeding and positioning of valves, sealing (curling / pressure sealing), quantitative filling of propellants (pressure control);
- Back-end: weight detection (rejecting overweight / underweight products), leak detection (water pressure / air pressure detection), valve nozzle assembly, capping, labeling, coding, boxing, etc.

4. Customization for Automation and Intelligence

- Basic version: PLC control system + touch screen operation, realizing parameter presetting (filling volume, speed, etc.) and fault alarm;
- High-end version: integrating visual inspection (can mouth defects, whether the nozzle is installed in place), Internet of Things modules (real-time monitoring of production data, remote operation and

maintenance), and equipped with robotic arms to realize automatic rejection and classification of unqualified products.

II. Core Advantages of the Production Line

- Full-process Unmanned Operation: The whole process from empty can feeding to finished product output is automatic, reducing manual intervention and lowering the risk of pollution (especially suitable for pharmaceutical and food-grade products).
- Efficient and Stable: The production line speed can be customized (30-300 cans / minute). Driven by servo motors, all processes operate synchronously to ensure stable output per minute, meeting the needs of large-scale production.
- Compliance Guarantee: Parts in contact with materials are made of 316L stainless steel, supporting CIP/SIP online cleaning and sterilization, and complying with industry standards such as GMP (pharmaceutical), FDA (food), CE (EU). The explosion-proof design is suitable for scenes with flammable and explosive propellants.