N. 2 Sachet Packaging Machines

Technical Specifications for Pharmaceutical Powder Sachet Packaging Machines

Pharmaceutical powder packaging machines (often referred to as Sachet Filling Machines or Stick Pack Machines) must adhere to strict cGMP (current Good Manufacturing Practices) standards, focusing on dosing accuracy and cross-contamination prevention.

1. Core Technical Specifications

    Production Speed: Ranging from 15–40 ppm (parts per minute) for R&D/lab units to high-speed industrial lines exceeding 400 ppm.

    Dosing Systems: Utilizing Auger Fillers (for non-free-flowing powders) or Volumetric Cup Fillers (for free-flowing granules).

    Accuracy & Precision: Controlled via Servo-driven motors to ensure tight weight tolerances (e.g., ±1% deviation).

    Material Construction: All contact parts are made of AISI 316L Stainless Steel, featuring mirror-polished finishes (Ra < 0.4 µm) for easy cleaning.

2. Packaging Formats

    Sachets: 3 or 4-side sealed flat pouches for maximum moisture barrier protection.

    Strips: Continuous chains of sachets, often used for unit-dose sampling.

3. Advanced Pharmaceutical Features

Dust Management: Integrated dust extraction manifolds and vacuum systems to maintain seal integrity and cleanroom standards.

Sealing Technology: Heat-sealing or Ultrasonic sealing bars to prevent thermal degradation of sensitive active pharmaceutical ingredients (APIs).

Traceability: Integration with Thermal Transfer Overprinters (TTO) or Laser Coders for Batch/Lot numbers and DataMatrix codes.

Control Systems: PLC-based architecture (e.g., Siemens or Allen-Bradley) with HMI touchscreens compliant with 21 CFR Part 11 for electronic records.

Technical Requirements / Project Specifications

1. **Sachet Dimensions:** 60 mm x 100 mm, **four-side seal** (4-side heat sealed).
2. **Filling Weight / Dosage:** From 3 g to 6 g of powder.
3. **Configuration: Twin-sachet** (or **Duplex sachet**), perforated for separation.
4. Documentation **DQ/IQ/OQ/PQ**

Stick Pack N. 1 Machine

Pharmaceutical Powder Stick Pack Packaging Machine

Format: Narrow and long tubular shape, ideal for on-the-go consumption.

Universal Pack specializes in the design and manufacture of customized stick pack packaging machines, specifically engineered for pharmaceutical products. Our expertise lies in producing intermittent-motion vertical form-fill-seal (VFFS) machines capable of handling a wide variety of powders with exceptional precision, utilizing our proprietary auger dosing system.

Built for the Pharmaceutical Industry

Our pharmaceutical packaging equipment is equipped with the most comprehensive range of accessories, controls, and documentation available:

Cooling Systems: For heat-sensitive powders, ensuring that temperatures within the sealing block remain consistently low.

Precision Temperature Control: Extensive use of probes and heaters to achieve maximum accuracy and monitoring of sealing temperatures across the entire sealing block.

OCR/OCV Optical Controls: For identification, verification, traceability, and monitoring of variable data and pharmaceutical codes on the laminate.

21 CFR Part 11 Compliance: Regulating user access and the use of electronic records and signatures. Includes Audit Trail and alarm history to track all machine events.

Project & Resource Encryption: To safeguard designs and digital assets from unauthorized access.

OPC UA Protocol: Ensuring seamless connection to the machine’s PLC and data exchange with the client’s MES (Manufacturing Execution System).

Batch Management: Functionality to create, record, save, and export all production batch data.

Weight Control: Integrated high-precision (milligram) load cells with feedback loops to the doser for rapid retroactive dosage correction.

Automatic Reject: Instant discharge of non-compliant stick-packs.

Serialization & Aggregation: Full systems for traceability and multi-level packaging aggregation.

Validation Documentation: Complete DQ/IQ/OQ/PQ protocols, as well as FDS/HDS/SDS (Functional/Hardware/Software Design Specifications).

Advanced Pharmaceutical Functionalities

Modern technical datasheets frequently include:

Powder Management: Integrated dust extraction systems to prevent cross-contamination and dust buildup on sealing areas.

Traceability: Integration with Laser or Thermal Transfer (TTO) printers for batch codes and expiry dates.

Industry 4.0: PLC and touch-screen HMI control for rapid format changeovers and remote production monitoring.

Documentation **DQ/IQ/OQ/PQ**
