



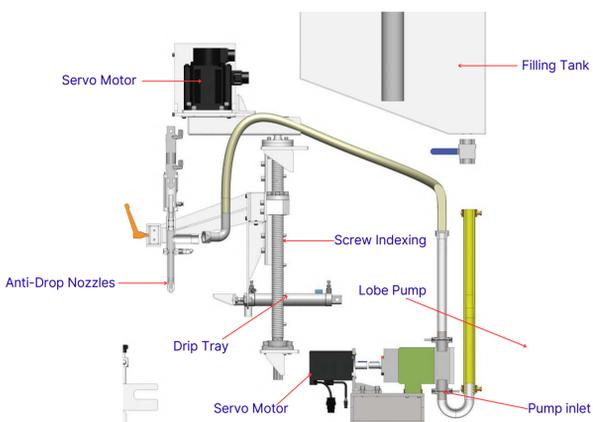
ML-LF-8N-100

8-Nozzle Servo-Driven Liquid Filling System

About

The Machinelab 8-Nozzle Servo-Driven Filling Machine is engineered for the rigorous requirements of pharmaceutical and medical device liquid processing. Designed for hygienic, accurate, and repeatable filling across a wide range of container sizes, it delivers reliable performance in fully regulated environments.

Built in Ireland with servo-driven dosing, GMP-compliant construction, and sanitary product-contact components, it is ideally suited for sterile solutions, diagnostic reagents, buffer liquids, irrigation fluids, nutraceutical syrups, and other medical-grade formulations.



Key Features

1. Eight Servo-Controlled Nozzles for High Throughput
Delivers fast, hygienic, and repeatable filling with independent servo-driven nozzles designed for sterile and low-to-medium viscosity pharmaceutical liquids.

2. GMP-Compliant Filling Architecture
Built with 316L stainless steel product-contact surfaces and hygienic flow paths, fully suited for Grade C/D cleanroom operation.

3. Pharmaceutical-Grade Dosing Accuracy
Advanced servo flow profiling ensures stable, turbulence-free filling with precise volume control across all nozzles.

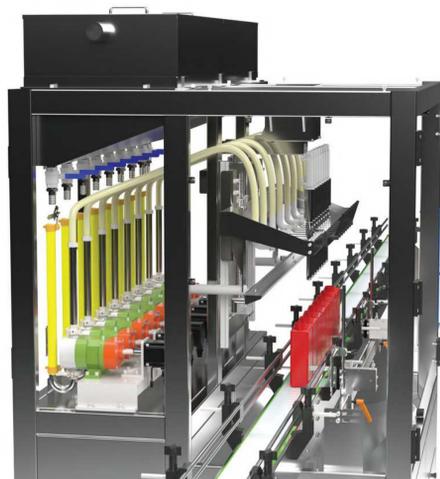
4. CIP/SIP Compatibility
Supports validated Clean-in-Place with optional Steam-in-Place sterilization for GMP, FDA, and EU Annex 1 environments.

5. Recipe-Driven Control System
Siemens/Allen-Bradley PLC with touchscreen HMI enables full recipe control, batch parameters, and seamless SCADA/MES integration.

6. Cleanroom-Ready Mechanical Design
Compact stainless-steel enclosure engineered for cleanroom efficiency with easy maintenance access.

Technical Specifications

Category	Specification
Industry	Pharmaceutical & Medical Device
Throughput	Up to 80–120 units/min (product-dependent)
Nozzle Count	8 individually controlled nozzles
Filling Range	Small vials to large bottles/cubitainers (customizable)
Accuracy	±0.2%–1.0% depending on viscosity/method
Dosing Method	Servo pump, mass-flow, or volumetric metering
Contact Materials	316L stainless steel, sanitary tri-clamp fittings
Controls	PLC + HMI, recipe storage, batch traceability
Cleaning Options	CIP standard, SIP optional
Utilities	Configurable per pharmaceutical facility requirements



Pharma & Med-Tech Filling Applications

- Diagnostic reagents & buffer solutions
- Irrigation fluids and medical washing solutions
- Pharmaceutical syrups & suspensions
- Contrast media
- Non-sterile medical liquids
- Nutraceutical liquid formulations
- Cleanroom-grade process liquids



Why Choose ML-LF-8N-100

- **High Accuracy, Low Waste:** Minimizes product loss — critical for high-cost medical formulations.
- **Robust Contamination Control:** Shutoff nozzles, sanitary design, and CIP/SIP readiness support stringent hygiene.
- **Process Repeatability:** Servo-driven dosing guarantees consistent batch-to-batch performance.
- **Fast & Validated Changeovers:** Recipe-based settings accelerate production flexibility and reduce downtime.
- **Regulatory Alignment:** Supports validation documentation (IQ/OQ), 21 CFR Part 11, and EU GMP compliance.