

PLM-ROSC-350

Fully Automatic RO Membrane Element Production Line



Features

- **High Compatibility.** Supports various membrane element models from the 1810 to 3013 series, with center tube lengths from 250–350 mm and diameters from 40–100 mm, meeting diverse production needs.
- **Fully Automated Process.** From trimming, O-ring assembly, airtightness testing, to end cap installation, the entire process is automated, reducing manual intervention and improving production efficiency (up to 17 seconds per unit).
- **Patented Technology.** Utilizes a patented O-ring assembly mechanism and manual tape wrapping technology, ensuring assembly accuracy (wrapping error < 1 mm) and high product yield.
- **Intelligent Inspection and Rejection.** Three-station airtightness testing (pressure range 0 to -98 kPa) with automatic rejection for strict quality control.
- **Digital One-Click Changeover.** Product parameters are configured digitally, eliminating mechanical adjustments during changeovers and significantly reducing setup time.
- **Modular and Segmented Design.** Each station (loading, trimming, inspection, etc.) is independently modularized for easy maintenance, upgrades, and flexibility.
- **Precision Cutting Technology.** Servo-driven disc cutting (accuracy ± 0.25 mm) delivers smooth, burr-free end surfaces and adapts to various membrane element sizes.
- **Information Integration.** Supports MES integration, QR code binding, and data traceability to enhance production management efficiency.

Specification

- **Center tube compatibility:** diameter 17 mm / 20 mm; length 10", 12" and 13" Lmax = 350 mm
- **Membrane element diameter compatibility:** diameter 40–100 mm
- **Production cycle:** 43 mm diameter production cycle ≤ 17 s/pc (depending on customer process requirements, cutting end face, etc.) 76 mm diameter production cycle ≤ 30 s/pc (depending on customer process requirements, cutting end face, etc.)

Applications

- **Household RO Membrane Element Production:** Suitable for batch trimming, end cap assembly, and airtightness testing of water purifier membrane elements.
- **Industrial Water Treatment Equipment:** Meets the automated assembly requirements of high-precision filter element components, improving product consistency.

