

Automate Insertion, Redefine Efficiency

Southern Machinery High-Precision Radial Tape Feeder

Solving the odd-form component
bottleneck to achieve seamless
SMT/THT production line integration.



Odd-Form Components: The Hidden Efficiency Drain in Your Production Line



The Labor Trap: Manual insertion is slow (approx. 500-800 CPH), labor-intensive (one feeder can replace up to 20 operators), and has an error rate as high as 0.5%, driving up rework costs.



The Bottleneck Effect: The manual insertion station's speed drastically lags behind SMT placement machines, throttling the entire line's output and lowering the ROI on your capital equipment.

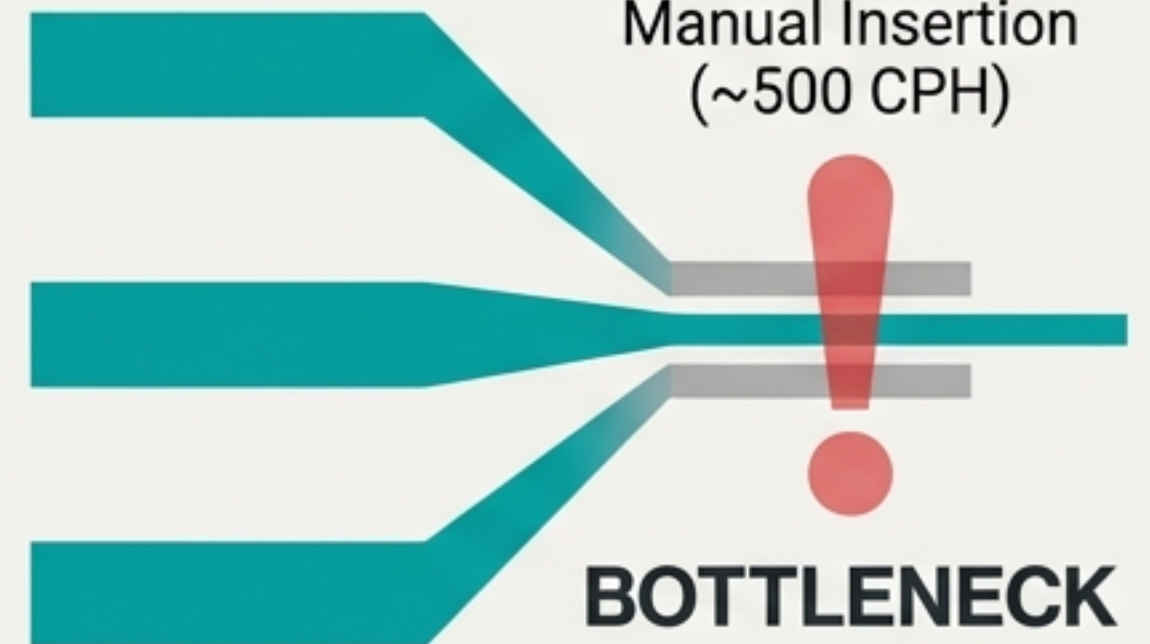


Inconsistent Quality: Manual handling leads to inconsistent insertion force and angle, causing micro-damage to components like electrolytic capacitors and creating long-term reliability risks.



Management Overhead: High costs associated with training, managing, and retaining skilled labor, especially in high-mix production environments where changeovers are frequent and error-prone.

SMT Line
(50,000+ CPH)



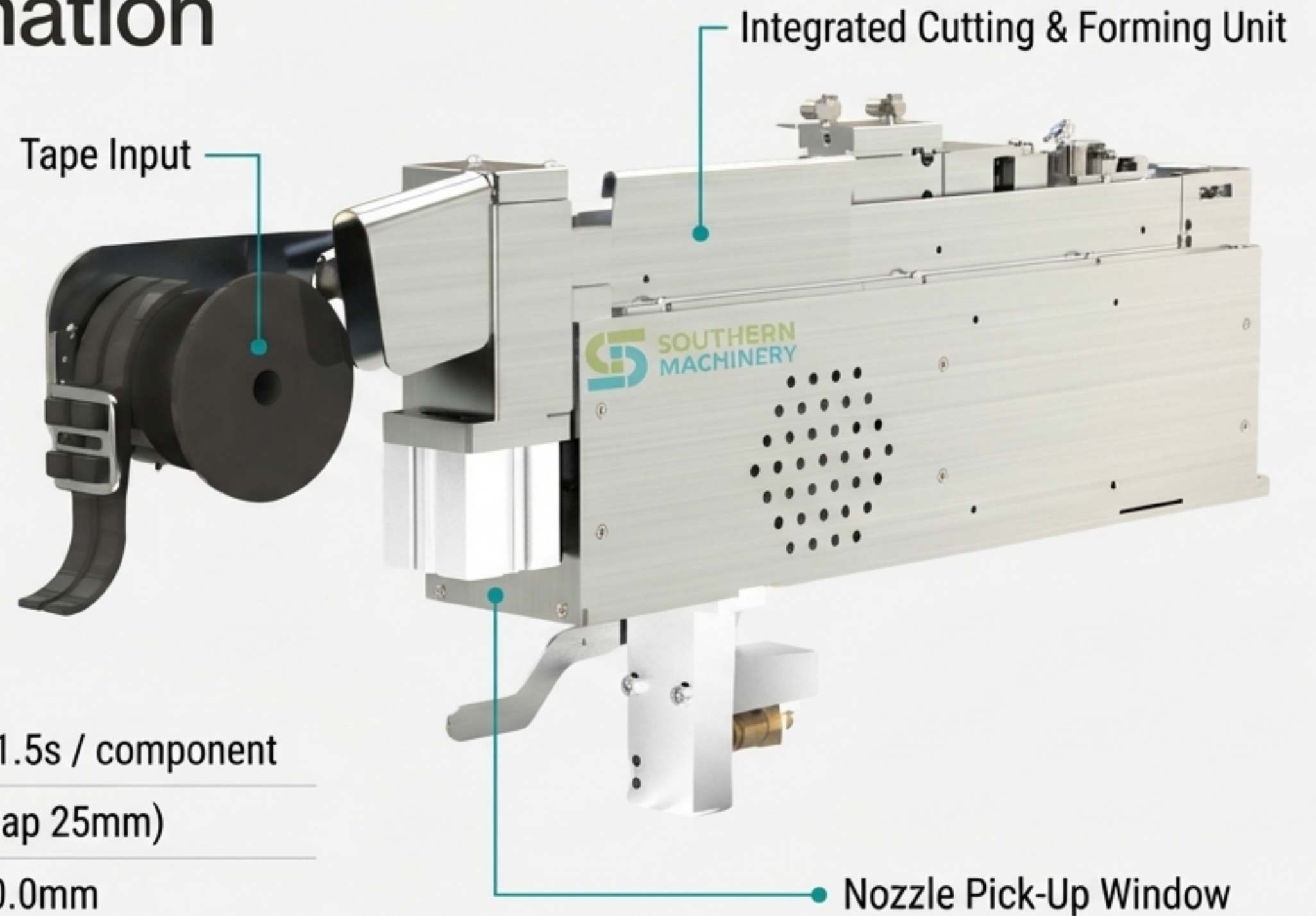
The Southern Machinery Feeder: Powering Your Line Line with Automation

Product Overview: An automated feeding solution that converts radial taped through-hole (THT) components into a standard format for seamless integration with your existing SMT pick-and-place machines.

Core Functionality: Automates the entire process of component transport, lead cutting, and forming, presenting a perfectly prepared component to the nozzle for pick-up.

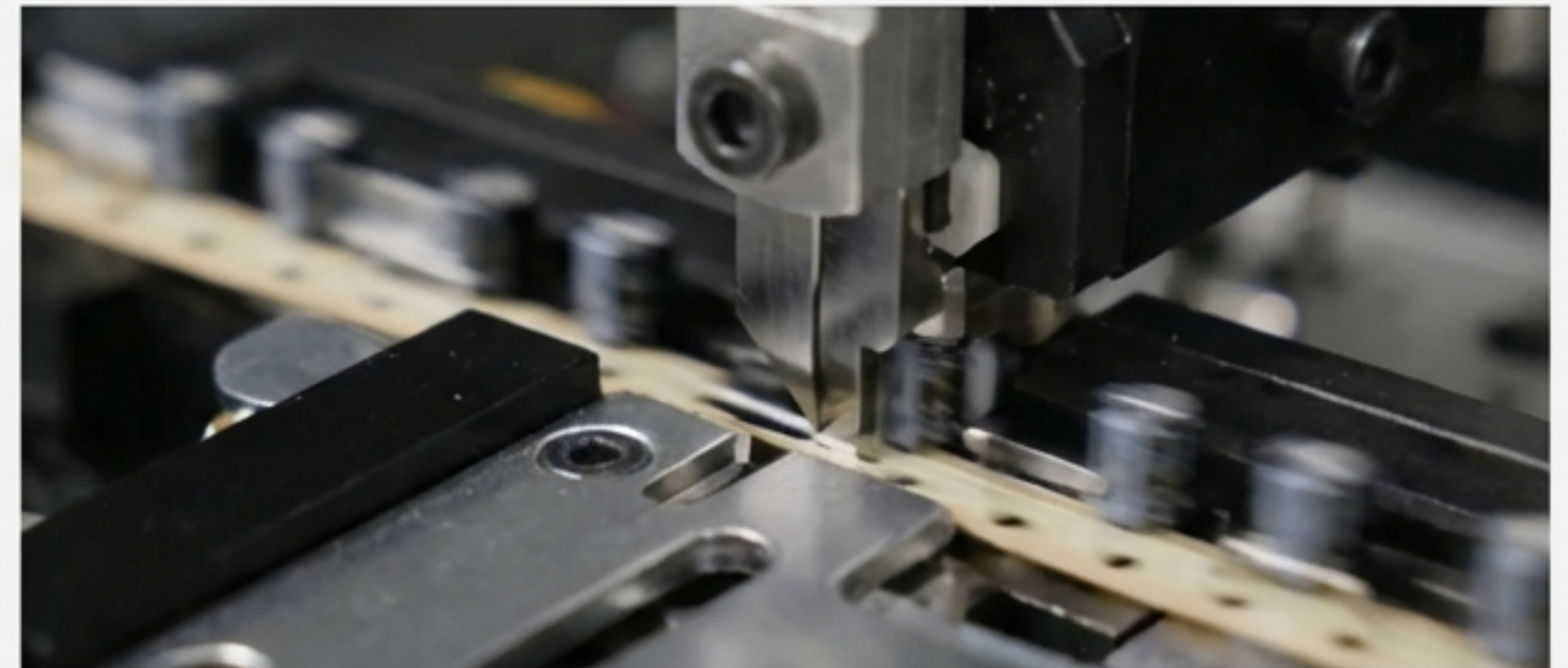
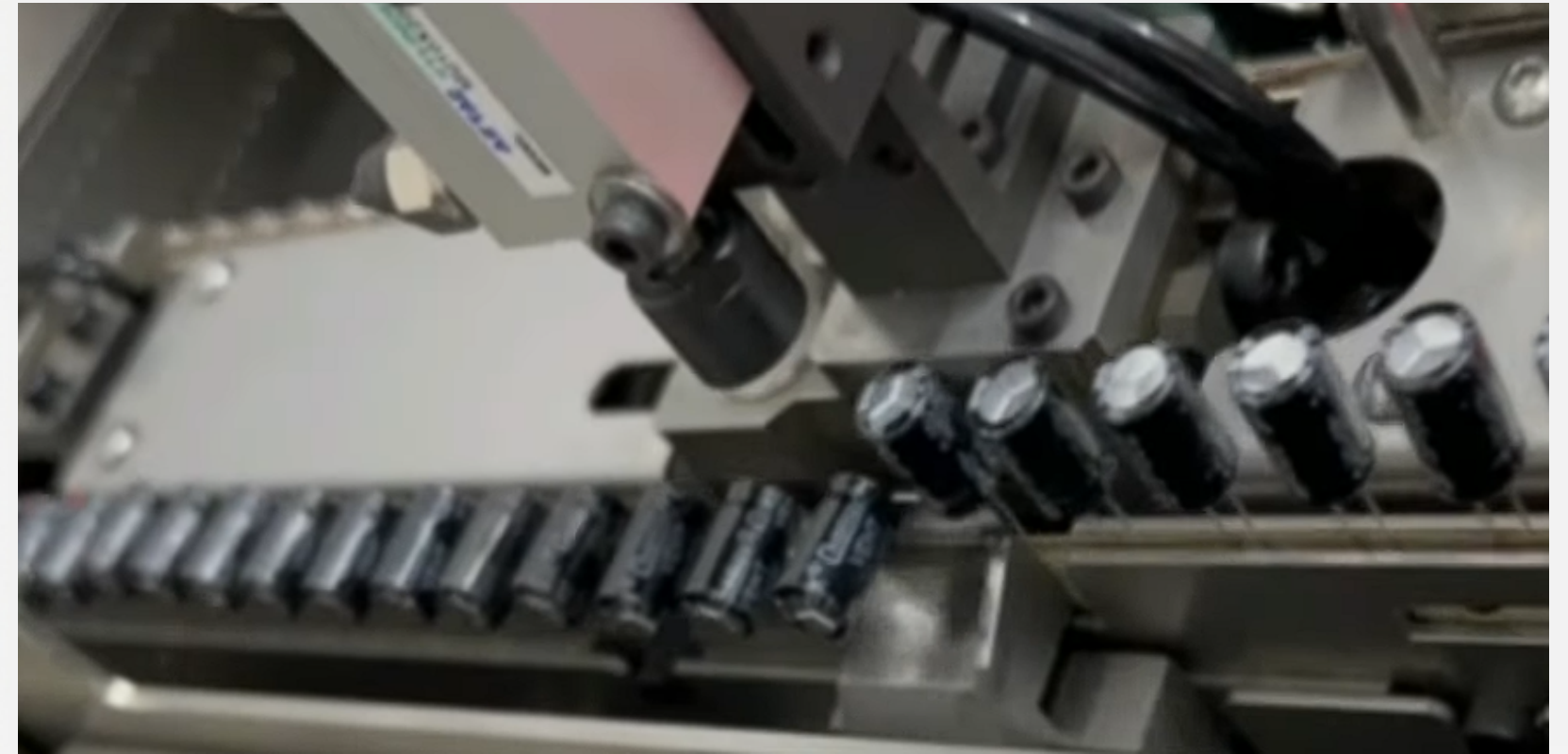
Key Performance Specs

Feeding Speed:	Reliable cycle times of 0.8 - 1.5s / component
Component Size:	Max Body Ø18mm (Square Cap 25mm)
Lead Span:	Accommodates 1.5mm to 10.0mm



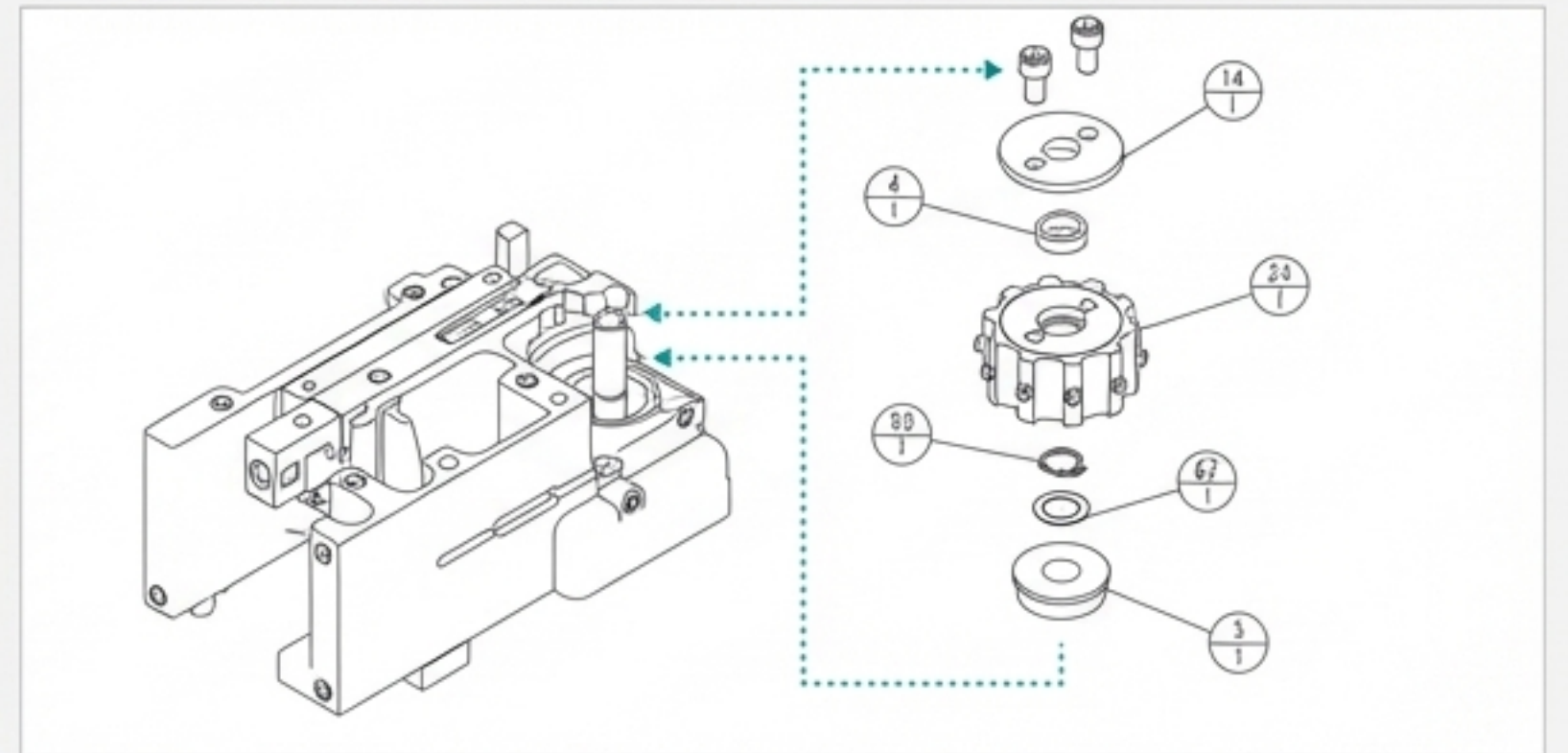
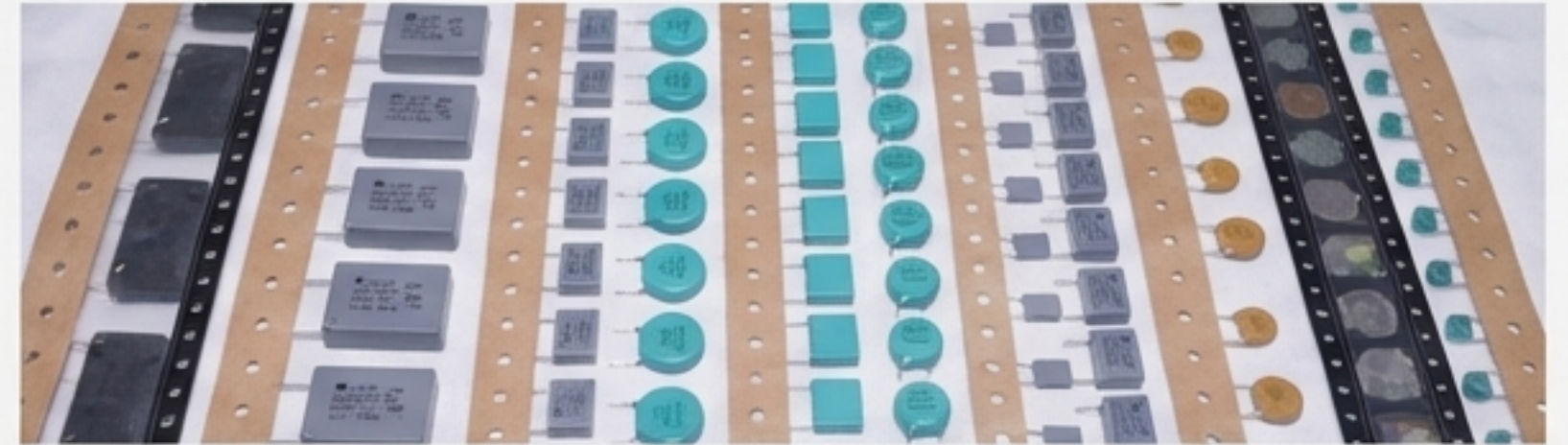
One-Step Processing: Integrated Lead Cutting & Forming on the Fly

- **Built-in Processing Unit:** A high-precision cutting and forming mechanism is integrated directly within the feeder, ensuring components are perfectly prepared *before* they are picked.
- **Eliminate Secondary Operations:** Eradicate the need for separate pre-forming machines or manual lead trimming, reducing associated labor and equipment costs by an estimated 30-50%.
- **Boost Solder Reliability:** Precise, adjustable lead length (2.5mm to 9mm) ensures ideal protrusion for wave or selective soldering, capable of reducing solder bridge defects by up to 25%.
- **Enhance Component Stability:** An optional 90-degree lead bending function securely “locks” components onto the PCB, preventing tilting or shifting during high-speed board transport.



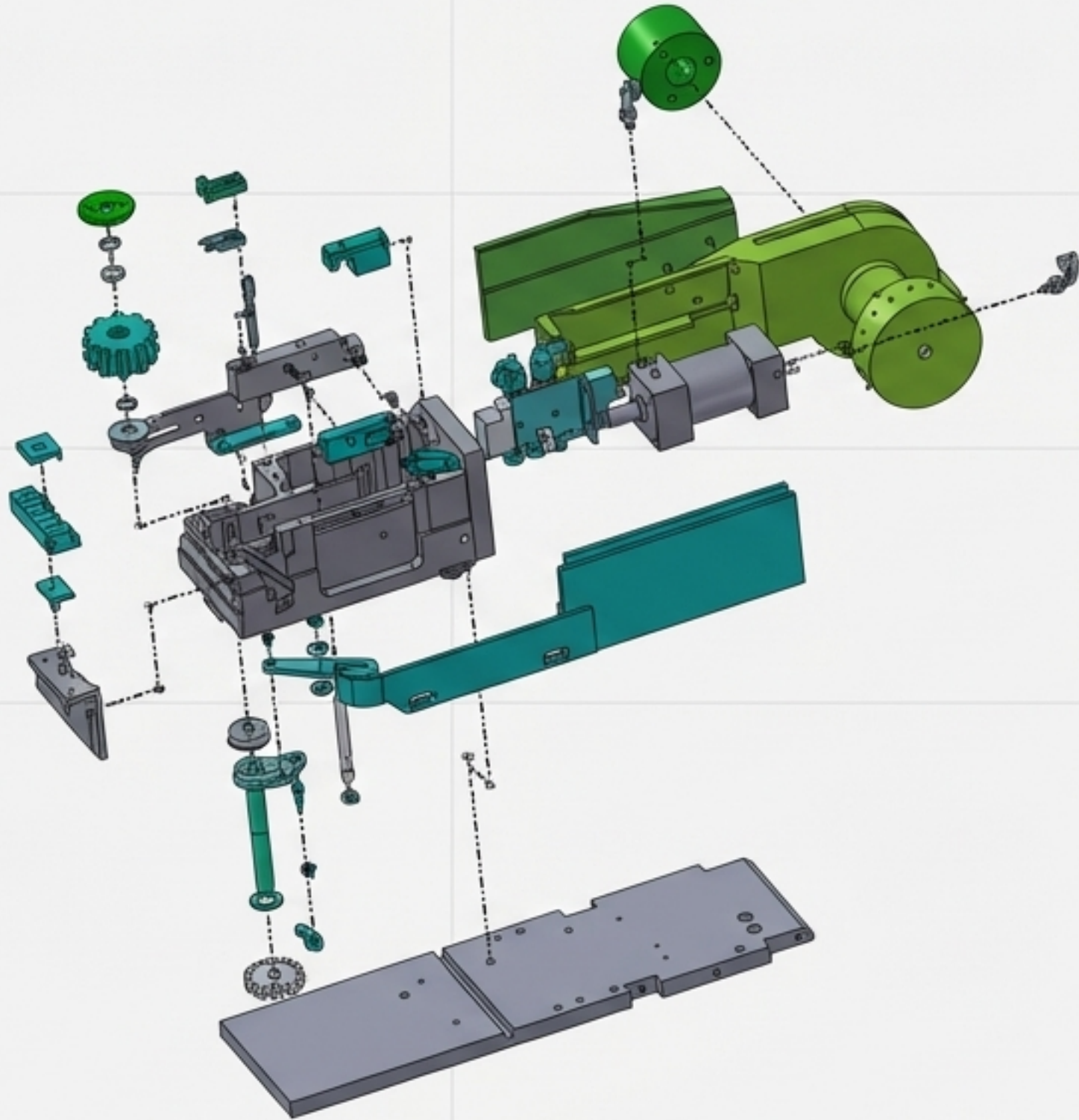
Maximum Versatility: One Feeder for Your Diverse Component Mix

- **Broad Component Range:** Handles the vast majority of common radial components, including round parts up to 18mm in diameter and square capacitors up to 25mm wide.
- **Flexible Lead Span Adjustment:** Easily accommodates components with lead spans from 1.5mm to 10.0mm.
- **Dual Tape Pitch Capability:** Natively supports the 12.7mm tape pitch standard and can be quickly converted to handle 15mm pitch.
- **Ideal for High-Mix Manufacturing:** This extreme adaptability means you don't need to invest in new, dedicated equipment every time a customer's BOM changes, protecting your investment.



Quick Changeover: Convert to 15mm pitch by replacing just three parts.

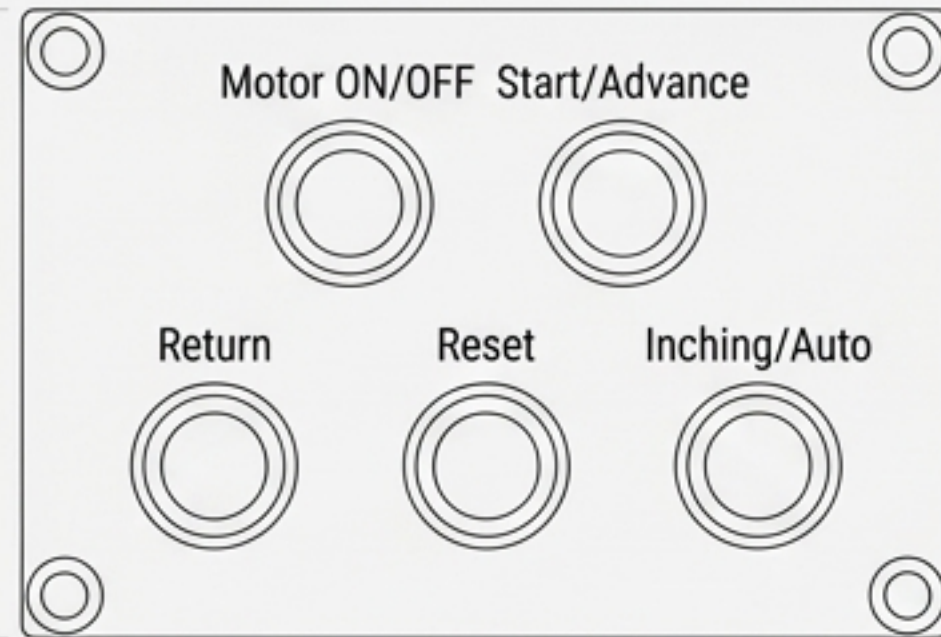
Engineered for Uptime: Robust, Reliable, and Ready for 24/7 Production



- **Dependable Drive System:** A proven **electric feeding method combined with pneumatic actuation** ensures consistent, stable power, avoiding the jamming risks associated with purely pneumatic systems.
- **Rock-Solid Construction:** With a substantial weight of **13.5Kg**, the feeder's robust build minimizes vibration and maintains high precision, even during prolonged, high-intensity operation.
- **Designed for Maintainability:** Key assemblies like the cutter and drive wheels are **modular**, allowing for quick on-site service and minimizing Mean Time To Repair (MTTR).
- **Intelligent Error-Proofing:** An integrated **fiber optic sensor** detects component presence, automatically stopping and alarming if the tape is empty to prevent mis-picks and wasted cycles.

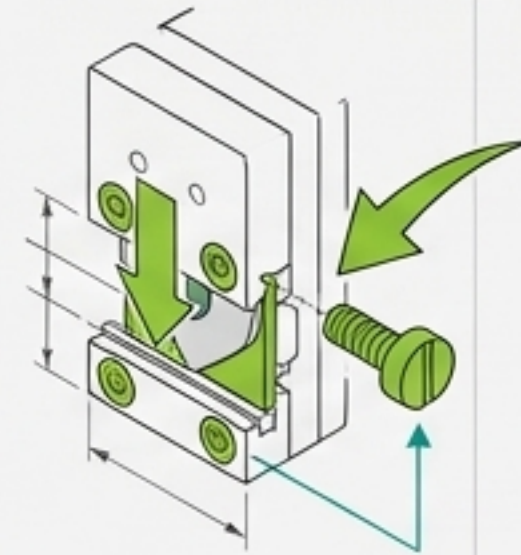
Intuitive to Operate, Simple to Maintain

Operation



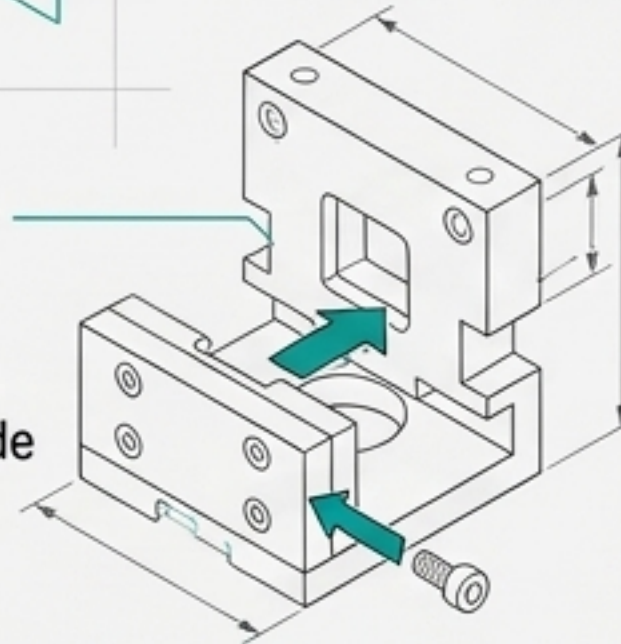
Simple Control Interface: The operator panel features just five clearly labeled buttons: Motor ON/OFF, Start/Advance, Return, Reset, and Inching/Auto. No complex programming or extensive training required.

Adjustments



Lead Cut Length: Loosen four screws and turn a single adjustment screw.

Bending & Pitch: Changeovers are achieved by swapping a mold or adjusting a slide block.



Maintenance

Clear Maintenance Schedule:

- **Monthly:** Lubricate the cutter assembly.
- **Quarterly:** Check and tighten all screws.
- **Semi-Annually:** Inspect air lines, cables, and drive belts.

Comprehensive Troubleshooting: The manual provides clear, step-by-step instructions for resolving common issues.

The Smart Investment: The Optimal Balance of Performance and Cost

Comparison	Manual Insertion	Southern Machinery Feeder (Our Solution)	High-End Full-Servo Feeder
Initial Investment	Very Low	Medium (Fast ROI)	Very High
Operating Cost	Very High (Labor)	Extremely Low	Low
Efficiency (CPH)	~500	2,400 - 4,500	25,000+
Quality & Consistency	Poor	High	Very High
Operational Complexity	Medium (Skill-based)	Low (Easy to learn)	High (Requires programming)
Value Proposition	-	Best Total Cost of Ownership (TCO)	Ultimate speed at a premium

A Proven Solution: Validated in 237+ EMS Factories Globally

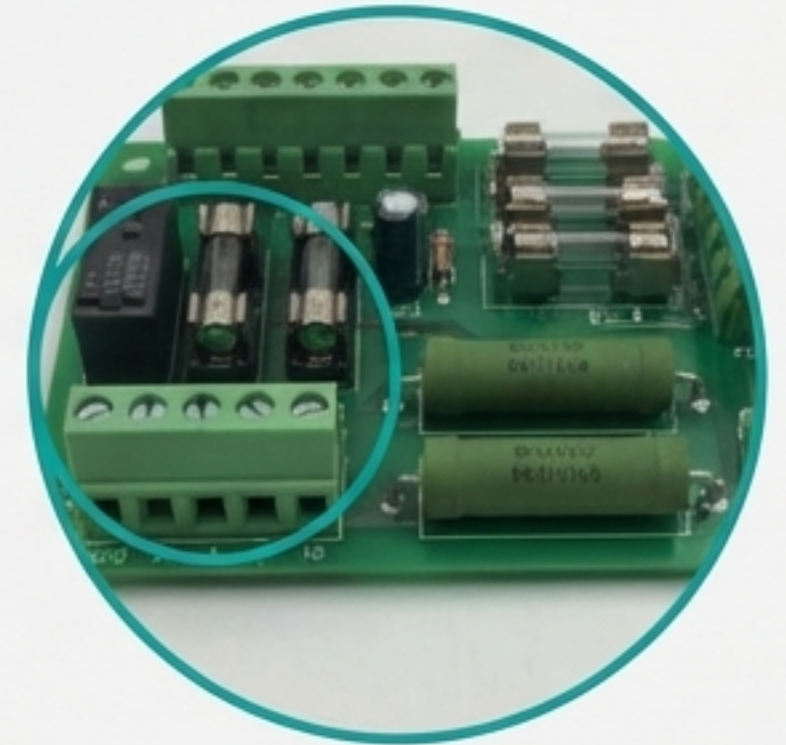
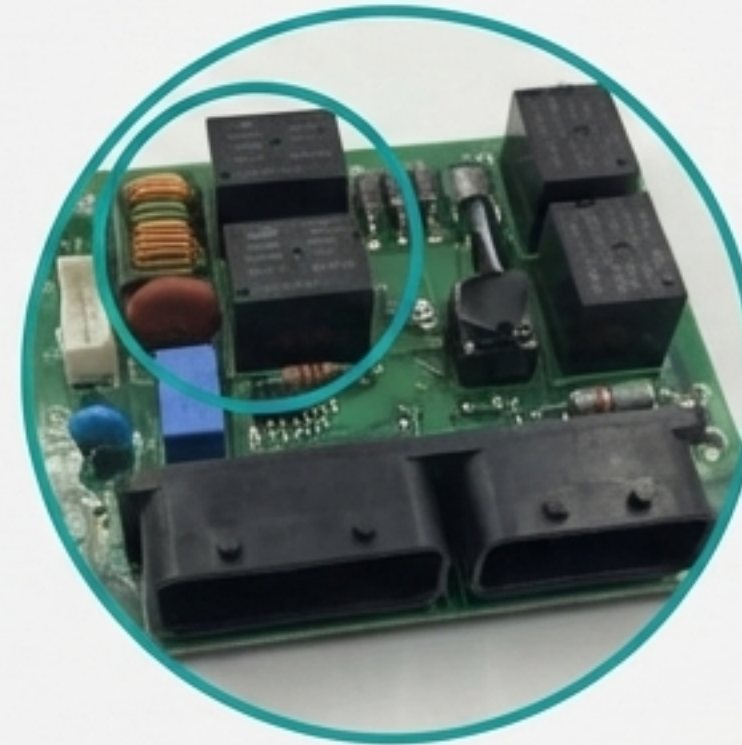
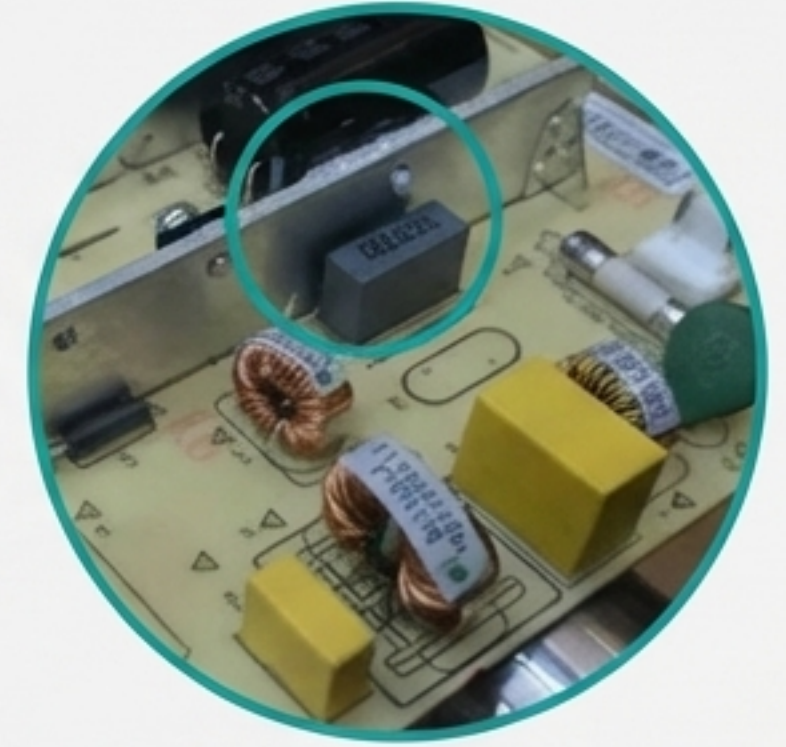
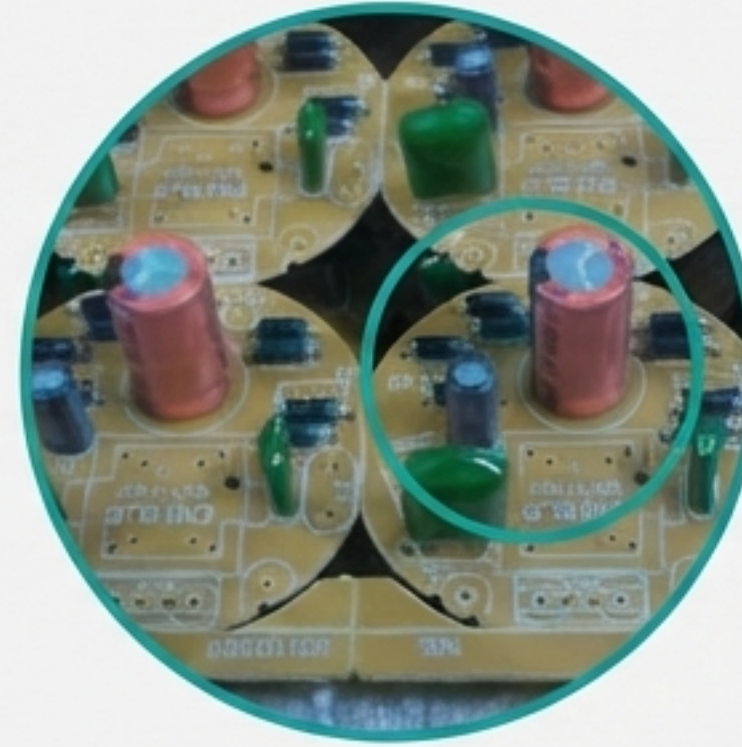
Power Supplies & Adapters: Perfect for automatically inserting all types of **electrolytic capacitors**, safety capacitors, and inductors.

Automotive Electronics: Meets the high-reliability demands for placing connectors, relays, and other through-hole components in automotive-grade products.

Industrial Control Boards: Ideal for automating the insertion of **terminal blocks**, fuse holders, and large resistors.

LED Lighting: Efficiently handles the various radial capacitors and components found on LED driver boards.

Consumer Electronics: Excels in the mixed-technology assembly processes common in home appliances and communications equipment.



Start Your Line's Efficiency Revolution Today

The Southern Machinery Radial Feeder is your most cost-effective investment to eliminate odd-form component challenges, reduce operating costs, and improve quality.

Take the Next Step:

- Request a detailed quote and personalized ROI analysis.
- Schedule a live video demo to see the feeder in action.
- Send us your materials for a complimentary insertion test.

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