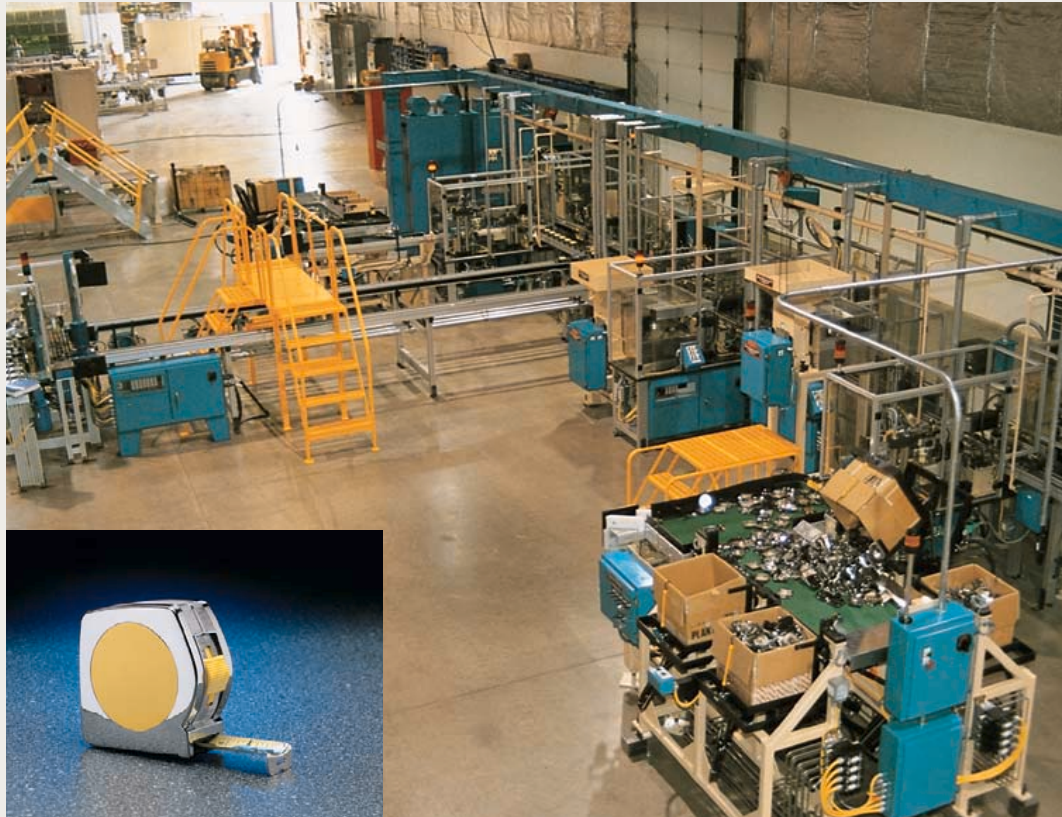


This highly automated, non-synchronous system assembles and tests three models of tape measures. Two test stations evaluate the quality of the final assembly. The product is transported through the on-line assembly and test stations on a custom fixtured pallet that assures accurate positioning for automatic operations. The first functional test determines the tape's ability to be locked into position and its resistance to retracting while locked. The second test checks the appearance of the assembled product with a vision system to ensure all components are assembled and labeled properly.



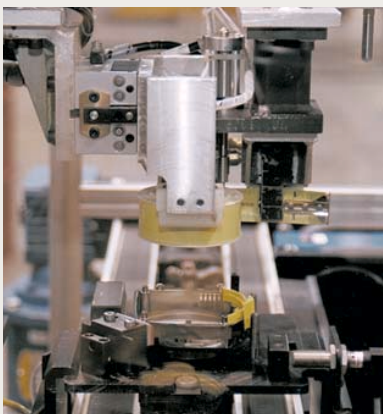
System Values & Benefits

- Delicate part handling provides 0 defects
- Integration into existing floor plan was achieved without site modification
- 4 hour minimum refill of feed systems for larger parts allowed for reduction in tender labor
- Compliance with control design standard provided familiarity for maintenance personnel

System Highlights

Applied technologies and system features include:

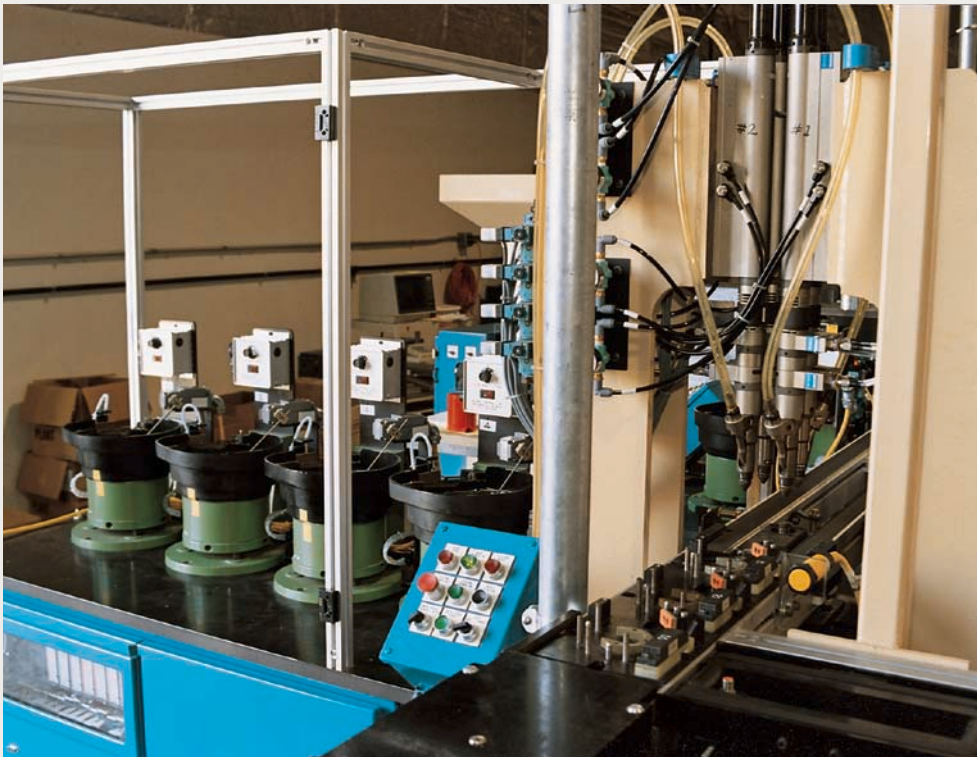
- Brushlon conveyor protects part quality during feeding
- Each of the 12 stations are individually controlled by a PLC
- LVDTs (Linear Variable Differential Transducers) and load cells are used to measure distances and forces during functional testing of the finished product
- Vision system inspects final product assembly and labeling
- Reliable modular designs use standard components for machine motions
- Vibratory feed systems for screw insertion
- RF communications system scans each pallet's RF tag block and reports data to the system's controller . . . the information is analyzed; accept/reject results are monitored throughout the system



◀ Custom part handling was required to obtain and place parts set in positions, allowing for assembly.

Tape Measure Assembly System

Talented People ➔ Right Solutions



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▲ The four feeder bowls supply screws to individual drivers which fasten the upper housing to the lower housing. Each driver is positioned directly above the housing where a pallet "lift and locate" unit provides the needed motion for assembly.

System Overview

- Non-synchronous, palletized conveyor system
- 40' long; 28' wide
- 118' of conveyor; 75 pallets
- 12 stations, all automatic, including 7 part loading stations and 2 test stations
- RF tag tracking of product status throughout the manufacturing process
- Multiple model production capability

Take the Next Step.

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◀ This station verifies screw delivery to each driver before actual assembly begins. Torque and depth monitoring provide quality feedback about the performance of the operation.

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