

# Automated Needle Assembly System

This machine automates the assembly of needles using precision components and an integrated control system. It is designed for high-volume production environments, ensuring consistent and reliable needle assembly.



## Overview

### Automated Needle Assembly System

This automated needle assembly system is designed for high-volume production environments, streamlining the manufacturing process through fully automated feeding, assembly, and screw locking. The machine ensures consistent quality by sorting finished goods into 'good' and 'rejected' categories while automatically unloading the final product. Equipped with an intelligent control system, it monitors operations in real-time, provides immediate alerts for irregularities, and tracks production capacity to optimize efficiency.

## Technical Components

### Precision Components

- Taiwan HIWIN precision linear guide
- Precision module (S136 material)
- SKD11 cutter

### Pneumatic Components

FESTO, SMC

### Control System

Mitsubishi PLC, HMI Interface

## Operational Features

### Automation Capabilities

- Automatic material feeding
- Automated assembly and screw locking
- Automatic 'good' vs 'rejected' product sorting
- Automatic finished product unloading

### Intelligent Monitoring

- Automatic alarming system for irregular operations
- Troubleshooting message prompts
- Automatic material induction
- Material shortage detection
- Capacity prediction and recording