

MiraBench Series

Manual Assembly Line

MiraBench Series offers compact, operator-driven assembly workstations for cost-effective, flexible production. Ideal for pilot runs and low-to-mid volumes, the modular design supports fast setup and easy scaling — add or rearrange stations as demand grows, bridging manual assembly and future automation.



Quick Facts	
Purpose	Manual assembly line/workstations for cost-efficient, repeatable production
Volume	~500–250,000 units/year (scalable up to ~600,000 with more stations or shifts)
Key Benefits	✓ High reconfigurability ✓ Low initial cost ✓ Virtually maintenance-free ✓ Fast setup
Lead Time	~4 weeks (fast deployment)
Pricing	From ~€15,000 for a basic 2-station line; single-station setups from ~€7,500
Operator Model	Fully manual; 1 operator per station, pace is operator-driven

Technical Specifications

PARAMETER	SPECIFICATION
Machine Type	Modular manual assembly workstations (bench-mounted or in-line)
Power Requirement	None (no electrical power needed for core operation) – purely human-powered
Cycle Time	~25 seconds per part (typical, depends on operator speed)
Throughput	~2–3 parts per minute per operator (with ~20–30 sec cycle times)
Footprint	Highly compact; e.g. single station ~20"x20" tabletop unit. Multi-station line footprint scales with number of stations (left to right or as U-shape layout).
Customization Options	✓ Variety of manual tools (presses, screwdrivers, etc.) per station ✓ Ergonomic fixtures and jigs for repeatable assembly ✓ Integrated test devices at end-of-line (functional test, etc.)

Applications

MiraBench suits a wide range of industries for assembly tasks where human precision matters — such as electromechanical products, automotive components, small appliances, and electronics.

It's ideal for small parts insertion, screwdriving, soldering, or adjustments that are difficult to automate. Perfect for high-mix, low-volume production, the modular setup allows quick changeovers between products, supporting flexible, batch-based manufacturing.

Key Performance & Scalability

- **Throughput:** - Scales from prototypes to ~250k units/year per line; easily expandable with added stations or duplicate lines
- **Quality** - Operator-led stations allow real-time quality control; optional test jigs and sensors enhance reliability
- **Upgrade Path** - Start manual and scale up — MiraBench modules can evolve into semi-automated lines (e.g. add conveyors or powered tools) without losing your initial investment

Contact us to discuss your production needs.

Scan the QR code to schedule a consultation call or download detailed specifications.

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MiraCell Workstations

Semi-Automated

MiraCell Workstations are semi-automated cells that combine human flexibility with automated precision. Based on lean Chaku-Chaku flow and cobot-assisted design, one operator can manage multiple stations in sequence. Ideal for mid-volume production, MiraCell automates repetitive tasks like screwdriving or labeling, improving throughput and consistency while reducing labor and operator fatigue.



Quick Facts	
Purpose	Semi-automated cells for key assembly actions — such as placing components in pre-lock position, handling seal installation, or similar repetitive operations
Volume	~5,000–500,000+ units/year; up to ~600k with optimized layouts and shifts
Key Benefits	✓ Cuts labor and boosts consistency ✓ Ensures repeatable quality ✓ Higher output than manual lines ✓ Easy to integrate
Lead Time	8–12 weeks (project-dependent)
Pricing	From ~\$15,000; complex setups with robotics/laser: \$30–50k+
Automation Level	Partial – operator loads/unloads; ideal for clustered one-operator, multi-station flows

Technical Specifications

PARAMETER	SPECIFICATION
Machine Type	Modular semi-automated workstation for dedicated tasks
Power Requirement	240 V split-phase, 60Hz
Cycle Time	~15-30s typical; faster with parallel stations
Throughput	Operator loads/unloads; automation handles the core task (robot, press, etc.)
Footprint	Compact (0.5-1.5m ²); layout customizable
Customization Options	✓ Cobot or actuator-based tooling ✓ Auto part feeders ✓ Vision/sensors for error-proofing ✓ Conveyor/shuttle integration for flow

Applications

MiraCell automates precision steps like pre-lock positioning, seal assembly, and related sub-assembly tasks. Designed for operator-assisted cycles, one person can manage 3-4 stations in rotation. Parts are placed manually for accuracy; the cell handles verification and controlled assembly. Unloading is done by the operator or a cobot.

This setup delivers high throughput with minimal labor, supporting industries such as **automotive, electronics, medical, and industrial manufacturing.**

Key Performance & Scalability

- **Throughput** - One operator managing 2-3 MiraCells can achieve **2-3x the output** of manual stations by overlapping tasks
- **Quality** Automation boosts consistency — vision checks, torque control, and repeatable processes reduce defects
- **Upgrade Path** - Add MiraCells as needed; start small and evolve into a HybridLine as volumes grow — **modular by design**

Transform your manual process with targeted automation.

Contact **MiraMotion** to identify which tasks in your line are prime for a MiraCell solution.

Interested in seeing a MiraCell in action?
Scan the QR code to schedule a live demo or RFQ discussion.

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AutoFlow Production Lines

Full Auto

AutoFlow is a fully automated assembly and packaging system for high-volume, lights-out production. Built for manufacturers producing hundreds of thousands to millions of units per year, AutoFlow eliminates manual labor, maximizes throughput, and delivers unmatched consistency. Each line is custom-engineered — from feeding and assembly to labeling and packaging.



Quick Facts	
Purpose	End-to-end automation for stable, high-output product lines
Volume	300k-3M+ units/year on a single line
Key Benefits	✓ Minimal labor ✓ Sub-5s cycle times ✓ Built-in QC ✓ Fully packaged output
Lead Time	20-30 weeks
Pricing	From ~\$220k (basic setup); large custom lines vary
Labor Model	One operator can run the entire system (mainly for refills/monitoring)

Technical Specifications

PARAMETER	SPECIFICATION
Machine Type	Fully automated line – custom-built per product
Power Requirement	480V 3-phase + compressed air
Cycle Time	As low as 3 seconds per part
Footprint	Large-scale layout, production-bay size
Customization	✓ Robotic handling ✓ Vision systems ✓ Inline test ✓ Packaging ✓ Full traceability

Example Use Cases

Connector Line: 12 parts/min, zero-defect assembly, inline testing, laser marking & blister packaging — all handled by one line

Smart Device Line: Multi-robot setup builds, tests, seals, labels, and boxes products — minimal operator touchpoints

ROI & Performance

- **Output Power:** One AutoFlow replaces 10–12 manual stations
- **Quality Control:** Inline vision + testing = 99%+ first-pass yield
- **Labor Cost Cut:** One operator = thousands of units per shift
- **When It Pays Off:** Ideal for mature, high-volume products where labor, quality, and floor space matter

U.S. Support & Contact

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HybridLine System

Smart, Scalable Semi-Automation

HybridLine is a flexible semi-automated assembly system built for medium-volume production and fast scale-up.

Designed to bridge the gap between manual stations and full automation, it combines automated processes, transfer systems, and minimal operator input.

Great for product families, multiple variants, and evolving demand — without committing to six-figure automation too early.

Key Highlights

Purpose	Scalable semi-automated line combining automation with minimal labor
Throughput	Up to 1,000,000 units/year (based on product & process)
Best Fit For	Assembly operations needing more output than manual lines, but with flexibility full automation can't match
Lead Time	~10-14 weeks (built to spec)
Pricing	From ~\$55,000 USD; custom lines vary by complexity
Automation Level	One operator can oversee the line (loading in / QC out) Performance Benefits
Higher Output	Achieve up to 2,500+ units per shift at 10 sec/cycle
Low Labor Cost	Repetitive tasks are largely handled by machines, which significantly reduces the amount of manual labor required
Faster Changeovers	Quick tooling swaps support product variants
Built-In Quality	Integrate vision checks, testing, and reject handling
Future-Proof	Easily expand or upgrade modules as volume grows

Technical Specifications

PARAMETER	SPECIFICATION
Machine Type	Modular semi-automated line (conveyor or index-based)
Power Requirement	240 Volt Split Phase, 60 Hz
Cycle Time	Down to 10 sec per unit (parallel processing)
Footprint	Scalable – typically 60-120 sq. ft.+
Customization	✓ Robotic handling ✓ Vision inspection ✓ Quick-change tooling ✓ Operator assist stations ✓ Integrated testing ✓ Flexible layouts

Applications

Automotive Supplier: Switched from manual to HybridLine to assemble sensor units; robot handles PCB placement, line manages potting, torqueing, and end-of-line test. Output doubled without increasing headcount.

Electronics Manufacturer: Used HybridLine to scale production of smart home devices from 100k to 500k units/year. Operator just refills feeders and oversees test/pass packaging. Fast ROI, full traceability.

Why U.S. Manufacturers Choose HybridLine

- **Faster ROI** than full automation
- **Lean-friendly** — supports Kaizen, batch changeovers
- **Adaptable** — new products don't require a whole new system
- **Local Support** — MiraMotion operates in Tennessee, with U.S.-based sales & service

Get Started

Let's talk about your process. We'll walk through your cycle time, product flow, and volume projections — then map out your HybridLine layout.

Scan QR to book a call and get a tailored HybridLine concept

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Auxiliary Options

Inspection, Marking, Measurement, Packaging

MiraMotion’s plug-and-play Auxiliary Modules add critical capabilities to your line, from vision-based inspections to laser marking and automated packaging. Compatible with any Mira system (MiraBench, MiraCell, HybridLine, or AutoFlow), these units boost quality, reduce labor, and support compliance. Easy to integrate, they preserve throughput and deliver fast ROI.

Core Options	
Inspection Systems	Vision/sensor checks for missing, misaligned, or incorrect components. Inline or end-of-line. From ~\$6k; 6-12 week lead time
Marking Systems	Automated QR codes, serials, barcodes (laser, inkjet, label, or dot-peen). From ~\$1k (dot peen) to ~\$33k (laser); 6-12 weeks
Measurement Systems	Inline control of critical dimensions using laser/optical sensors. From ~\$9k; ideal for tolerance-sensitive parts
Packaging Systems	Automated blister, tray, or box packing with optional weight/vision checks. From ~\$6k for basic units; fully robotic options available
Cleaning Systems	Uses ionized air to effectively remove foreign particles and neutralize static charges on components. Essential for sensitive production environments. From approx. \$18,000

Applications & Benefits

- **Zero-defect production** – Inline QA verifies every part
- **Full traceability** – Marking systems ensure compliant, batch-traceable output
- **Labor savings** – Automation replaces 2-3 manual operators for inspection or packing
- **Flexible setup** – Add modules anytime as needs grow

Example: One production line uses vision to inspect, laser to mark, test station to verify, and a robotic cell to package — fully automated from start to ship.

Ready to Integrate?

All modules are built to slot directly into existing lines.

Scan the QR code to schedule a consultation with our systems expert.

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