

Master any mix. **Turn up the volume.**

MYPro series A40™ Placement





MYPro Line™ assembly solutions

CHANGE IS IN THE AIR

New components. New product mixes. And now, a fast and flexible assembly line that keeps you several steps ahead of them all. With MYPro Line assembly solutions, there's virtually no technology, board design or batch size that can slow your growth. Handle any material flow. Jet any fluid media. Place any component. And eliminate every defect. All with full vertical and horizontal connectivity. And industry-leading planning and process control

software to make quick work of even the most demanding build schedules.

More than the sum of their parts, MYPro Line assembly solutions combine to form the market's most productive just-in-time production environment. Allowing you to master any mix. Turn up the volume. And embrace whatever changes tomorrow may bring.

IMPROVE FLEXIBILITY

Respond quickly to evolving technologies and fast-changing market demands with the industry's most agile PCB assembly solutions for any build schedule.

ENHANCE QUALITY

Stop defects at their source. Go beyond verification to consistently produce fewer defects, predict variability and dramatically reduce repair costs.

BOOST PRODUCTIVITY

Achieve higher throughput at lower cost with state-of-the-art PCB assembly solutions that make data more visible, processes more automated and people more productive.



THE EVOLUTION OF AN ICON

Same robust frame and feeder technology. All-new mounthead and user interface. A leap forward in performance and versatility. Thanks to the high-speed MX7 mounthead technology, the industry's most flexible pick-and-place platform makes it possible to produce more boards every day.

The result is more than just a pick-and-place machine. It's a fully integrated agile production solution designed to keep manufacturers ahead of the accelerating innovation cycles, complex board designs and rapid prototyping demands that are increasingly driving the evolution of electronics assembly.

The MYPro A40DX, A40SX and A40LX set a new benchmark for manufacturers with a highly variable product mix and frequent new product introductions. The three pick-and-place models combine unrivalled flexibility with high-accuracy placement and the industry's fastest changeovers, allowing producers to shift seamlessly between short batches to volume production runs with the highest possible line utilization.

The MYPro A40™ Flex your potential

The master of high-mix just turned up the volume. All so you can handle the widest possible range of components and batch sizes with the highest productivity and fastest cycle times. Equipped with the all-new high-speed MX7™ mounthead, the MYPro A40 paves a new path forward towards the future of flexible assembly.

Boost your output

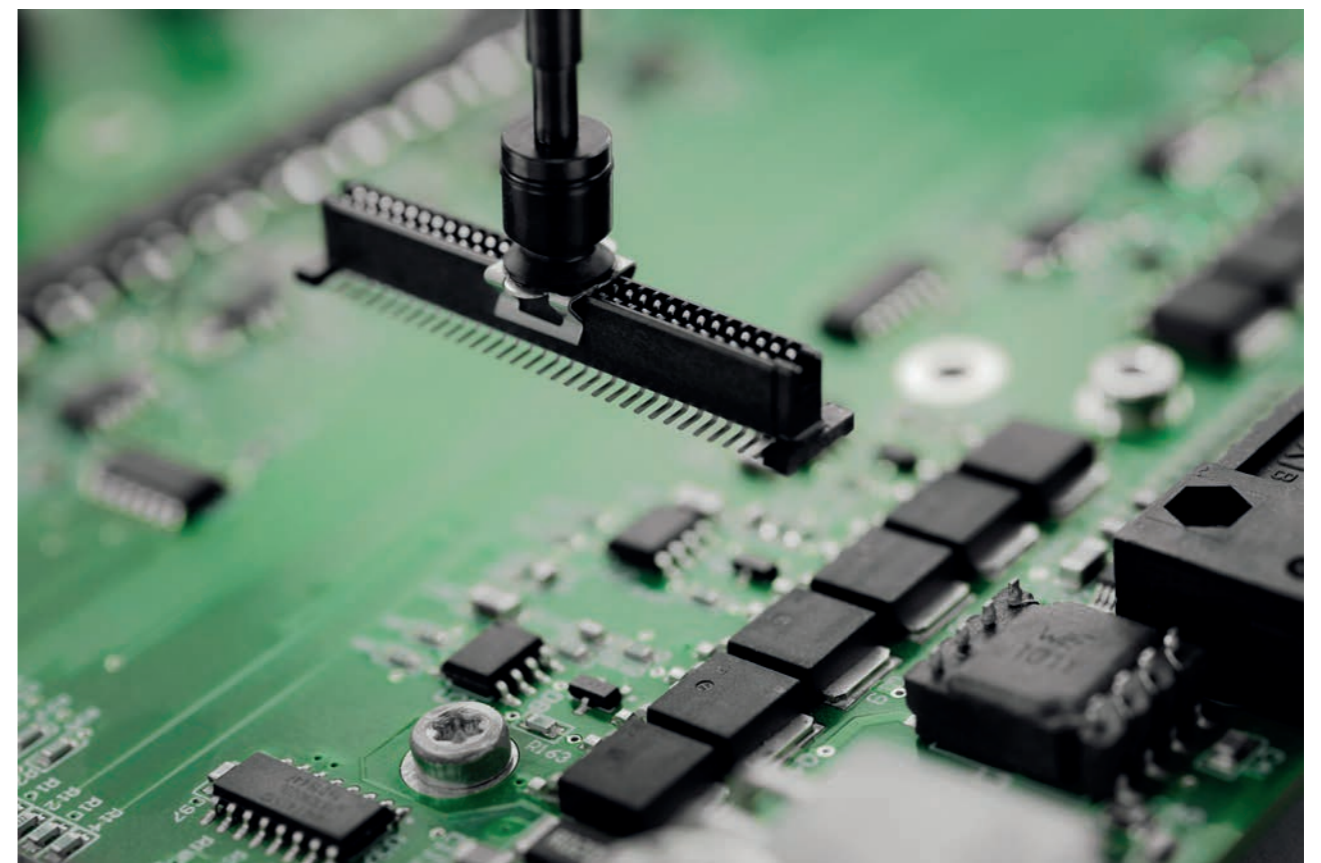
Top speed of 59,000 cph

Simplify your workflow

All-new intuitive user interface

Expand your possibilities

6 times larger component size with MX7 mounthead



The new MX7 mounthead

Flexibility. Turbocharged.

At the heart of the MYPro A40 is the next-generation MX7 mounthead technology. The result of several years of in-house development, it packs fourteen independent direct drive motors, along with an array of pressure and component drop sensors and servo control technologies, into a remarkably compact footprint. The MX7 enables an unprecedented level of granular control, reliably handling a far wider range of component sizes at substantially higher speeds.

Next-level flexibility

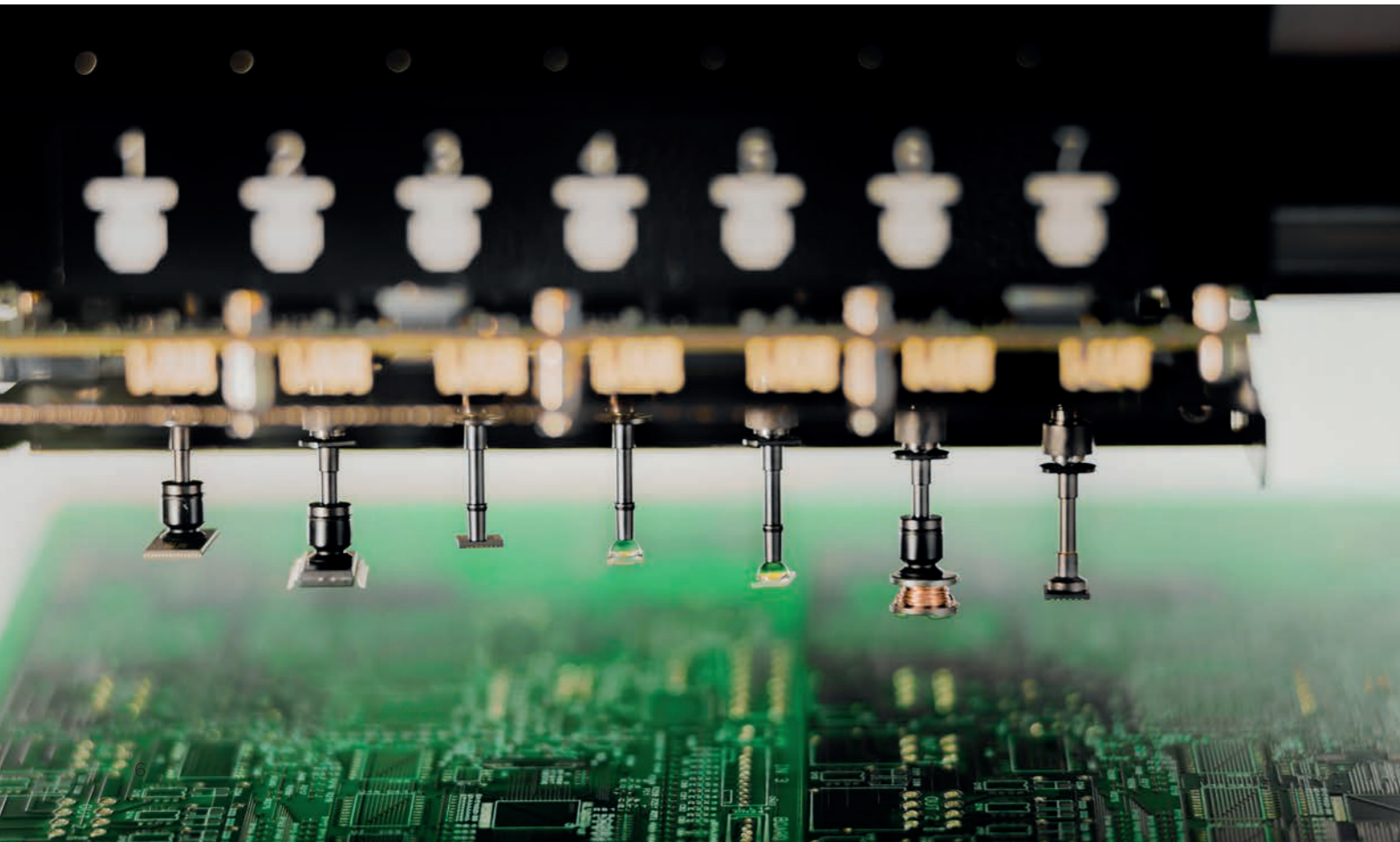
- Handle component sizes up to 45x45x15 mm and long components up to 150x40x15 mm
- Mount 6 times larger components

Precision engineering

- Low-maintenance modular design with robust direct drive motors
- 7 high-precision vacuum sensors for high-precision component drop detection

High-speed performance

- 48% faster top placement speeds
- 14 independent Z and Theta motors



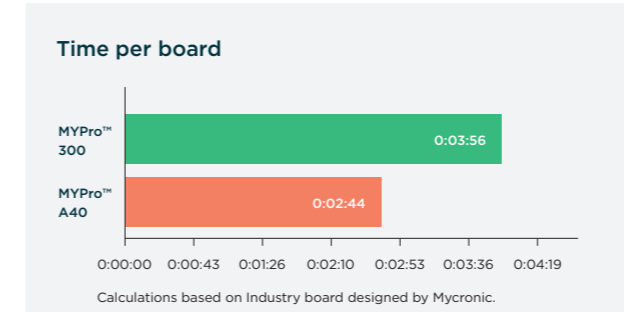
Bigger volumes

Bigger opportunities

Looking to expand your product mix and your production volumes? Now you can. The MYPro A40 delivers the high accuracy and fast changeovers you expect from the icon of agility, together with a dramatic increase in productivity. Whatever jobs tomorrow might throw your way, there's never been a more versatile way to scale up production and grow your business.

Up to 59,000 cph

High-mix meets high-speed. Or rapid prototyping meets volume production. However you look at it, the MYPro A40DX maintains the industry's fastest changeovers while boosting top placement speeds up to 59,000 cph. Compared with previous machine generations this amounts to 20-60% higher production output in real production conditions, depending on technology and product mix.



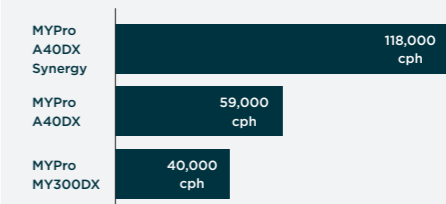
For high-mix producers, the result is increased productivity for long series production runs. For volume manufacturers, it offers the flexibility to take on jobs of any size without compromising overall cycle times. Thanks to seven independently controlled pick-and-place nozzles, the MX7 mounthead optimizes every movement to cover a vast range of applications and component sizes.

Mount 6x larger components

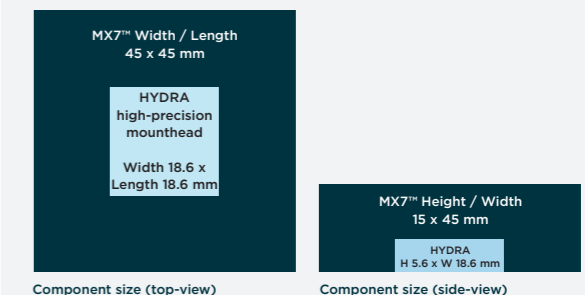
Because each of the seven MX7 nozzles moves independently in theta and Z axes, they can pick, rotate and place nearly any imaginable component with extreme precision. Fine-pitch CSPs, FCs or

BGAs. From components as tiny as 01005 up to those as large as 45x45x15 mm or as long as 150x40x15 mm. Or stacked, dipped and entirely new package varieties. A high-precision linescan vision system scans fiducials before placement, steering a custom servo platform that updates 80,000 times per second to achieve the highest placement accuracy. Whatever the next job demands, a series of high-precision vacuum sensors and a low-impact nozzle mass ensure you can pick and place a significantly broader range of parts and sizes without damaging, mispicking or dropping components.

Placement speed



Component range improvement for high-speed mounthead





INTUITIVE INTERFACE DESIGN

Of course, no modern production environment is complete without the most streamlined user interface. On the MYPro A40, this means an all-new graphical interface that raises the visibility of vital process data while providing simple, intuitive touchscreen guidance. It makes operator training simple, day-to-day functions more accessible and program settings virtually foolproof.

Improved data visibility

Track the status of ongoing batches, number of boards produced and boards remaining

Manage material flows

Get real-time data on which components and feeder types have been loaded, including reels, sticks and trays

Stay alert

Stay focused on the tasks that matter most with improved operator alerts and easy message log filters

Check your status

Conveyor and board status shows state and time remaining with easy overviews and error alerts

SOFTWARE-DRIVEN AUTOMATION

True to the MYPro assembly concept, the MYPro A40 includes the richest software suite in the industry. Standard CFX and ERP interfaces enable factory-wide connectivity. And MYCenter puts you in full control with complete material tracking, proactive replenishment, modern SQL databases and enhanced process automation.

The Mycronic software suite includes:

- Full visibility planning and fast, error-free converting of CAD and material data
- 100% stock accuracy with scannable feeders and ERP connection module
- Complete traceability down to individual PCB level
- User-friendly material handling with e-labels for paperless kitting guidance
- Proactive replenishment monitor with automated material delivery
- Hermes standard M2M communication
- Standard CFX integration for vertical communication to MES & ERP systems

EASY MATERIAL MANAGEMENT

Mycronic's modular feeder system is designed for accuracy, ease of use and convenience. It gains unrivalled flexibility from a combination of intelligent feeders and magazines for tapes, sticks and trays. The unique Agilis™ can be loaded in less than ten seconds – faster than any other on the market. And by keeping preloaded Agilis feeders on hand, you can perform set-ups and changeovers even faster. Since all Mycronic magazines can be replenished while the machine is running, you never have to stop production if you run out of components.

In addition, all magazines and Agilis feeders have a unique identity that links them to the machine's system software. This enables the machine to recognize the presence, absence and location of components – a valuable asset when it comes to keeping track of inventory, since the machine knows exactly how many components are left on each tape reel. Reprogramming of pick positions is also eliminated. Instead, the system software instantly recognizes the feeder, regardless of machine or position, and reoptimizes the mounting program to maintain the highest levels of efficiency.

NO ERRORS, LESS REWORK

Electrical verification, which takes place before placement, is performed on the utility wagon's test surface. Using redundant test patterns on a surface

instead of jaws, it helps to reduce wear on the contact area while allowing testing of new package types. The process is 100% effective at verifying the value of transistors, resistors, capacitors, diodes, and the orientation of active, polarized components. Incorrect and counterfeit components are automatically rejected while the machine continues building the board, thus guaranteeing quality while eliminating time-consuming rework.

Available models and production cells

MYPRO A40DX-13/17*

Featuring up to 224 x 8 mm reels with a top speed of 59,000 cph

MYPRO A40SX-13/17

Featuring up to 224 x 8 mm reels with a top speed of 29,000 cph

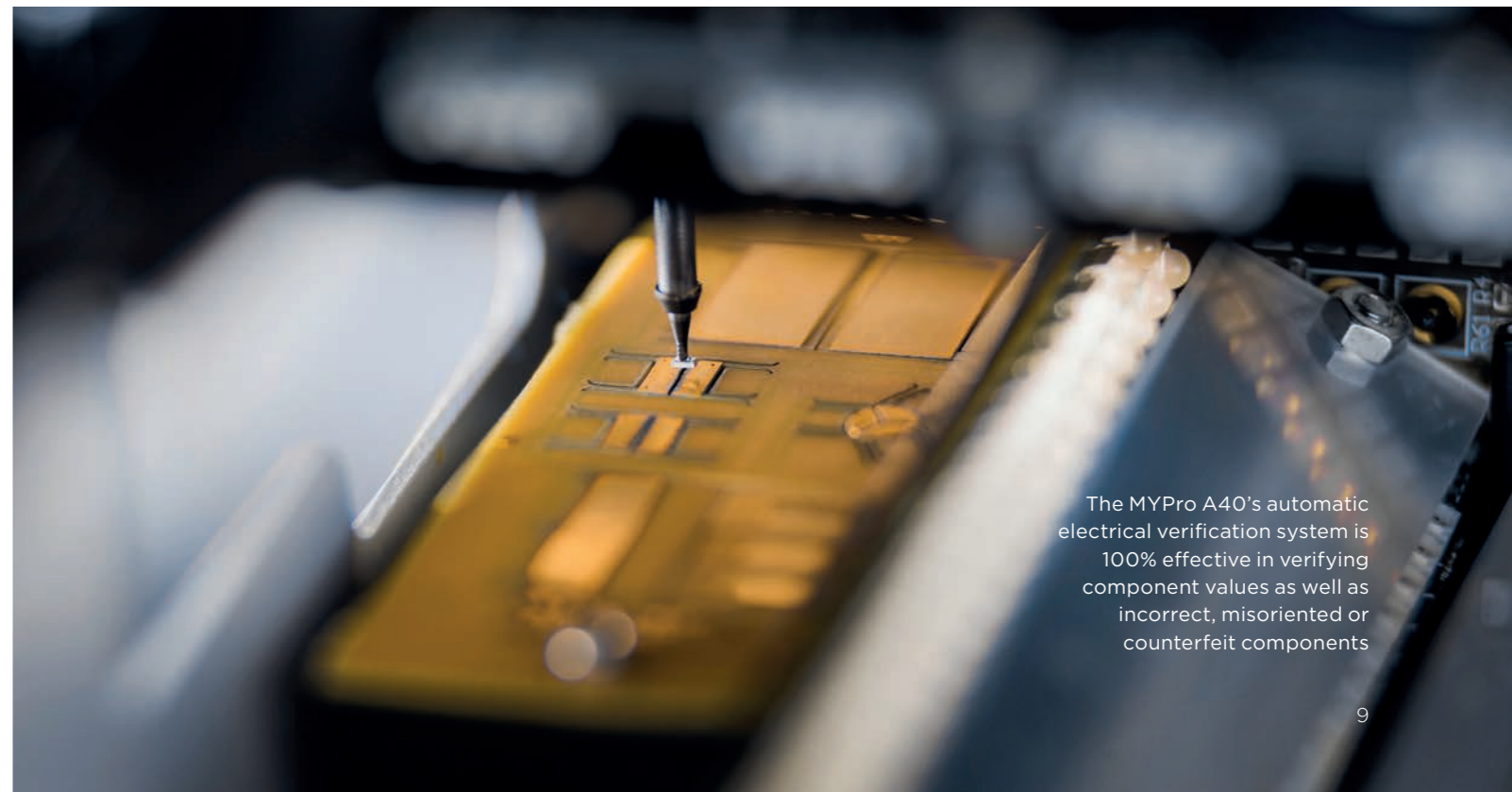
MYPRO A40LX-13/17

Featuring up to 224 x 8 mm reels with a top speed of 18,000 cph

MYPRO A40DX SYNERGY LINE

A twin-machine MYPro A40DX line unified into one high-volume solution. Featuring feeder capacity up to 448 x 8 mm reels with a top speed of 118,000 cph

* All MYPro A40DX models include two high-speed MX7 mounthead and one high-precision MIDAS mounthead



The MYPro A40's automatic electrical verification system is 100% effective in verifying component values as well as incorrect, misoriented or counterfeit components

Agilis™ feeder systems

Reliable, flexible and intelligent material handling

Ultra-compact and with no moving parts, Agilis is a durable, reliable feeder solution that is both fast and easy to use. Plug-and-play simplicity means you can load and unload feeders in seconds, saving countless hours of operator time. Whatever your production size, barcode scanning eliminates manual entry of feeding parameters during loading and unloading, making setups and changeovers faster than ever.

The award-winning Agilis feeder system's unique flexibility allows you to mix and match single feeders, or replace all your feeders at once — depending on how you want to work. With the Agilis Flex feeder, you can confidently switch between components of virtually any size and pocket depth. Whichever feeders you choose, you can count on intelligent functions that consistently ensure quality and enhance productivity.

Advantages of Agilis feeder systems

- Fast and accurate setups and changeovers
- Rapid loading and unloading of feeders
- Simplifies data entry with barcodes and electronic ID
- Provides full component data and inventory tracking
- Feeders can be removed and replenished on-the-fly
- Magazines allow multiple feeder changes at one time
- No pick position programming is needed
- Paperless kitting guidance with Agilis Smart Bins

Tape feeders

A revolution in feeder design, Agilis tape feeders significantly reduce changeover and setup times. With or without take-up reels, they are extremely fast to load and unload, and can handle an almost endless variety of tape components. Preloaded Agilis feeders can even be stored along with tape

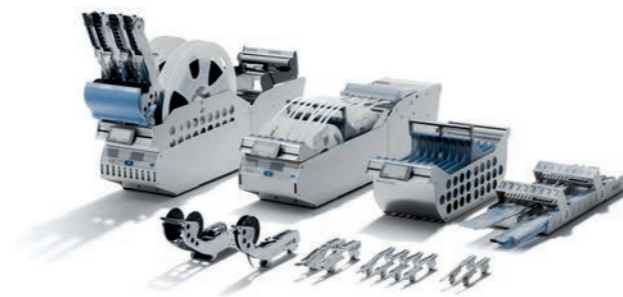
reels, ready for instant use in the next job. Automatic location detection means that feeders can be placed anywhere in the machine, giving you true plug-and-play functionality, even during operation.

Fast, compact agilis tape feeders

The compact 4, 8, 12 and 16 mm Agilis tape feeders are extremely fast to load and unload. An innovative cover-tape separator on the pen-sized feeder exposes components for easy picking, which also makes it easier to handle short tape clips. Agilis tape feeders are ultracompact, lightweight and constructed with no moving parts, making them extra durable and practically maintenance-free. The Agilis LM8 magazine holds up to 16 feeders for 8 mm tapes, while the Agilis LM1216 magazine takes up to eight feeders for 12 or 16 mm tapes. The ALM4 magazine can hold 16 feeders for 4 mm tape.

Agilis Flex — handle any component on tape

The Agilis Flex feeder represents an evolution of the Agilis concept, with a wider, more flexible format. Like an Agilis tape feeder, it can be interchanged with any feeder position, but with the added possibility of handling any tape component, from 8 to 152 mm in width, with pocket depths that accommodate even the thickest, tallest components.



Stick feeders

Capable of handling a wide range of components in a single magazine, Mycronic stick feeders provide high-mix SMT manufacturers with tremendous flexibility. Setups and changeovers can be accomplished quickly and easily, thus eliminating bottlenecks when switching from one type of job to another. At the end of the day, this means significantly higher productivity.

Agilis Stick Magazine

The Agilis Stick Magazine, ASM, utilizes a high-precision, short-stroke linear drive with a servo-controlled, horizontal motion to effectively reduce operator assistance and component waste. Removable stick pallets with a built-in pallet ID and barcode system allow you to replenish and pre-load pallets, as well as prepare data before pallets are loaded into the magazine. Pick-up positions are automatically localized and trimmed, thus eliminating the setup and changeover time associated with other stick feeders. With ASM, you can simply plug in and go.

Smart Bins and e-labels

The Agilis Smart Bin system provides intuitive paperless kitting guidance, based on wireless,

electronic labels (e-labels) that communicate with the central data server via a radio base station. Each Agilis Smart Bin is equipped with an e-label that is mechanically attached to the front of the bin. The MYCenter material handling software guides the operator through the entire kitting and changeover process, presenting instructions on both the PC monitor and on the e-labels themselves. The intuitive instructions are presented where the actual work takes place, directly on the material container, minimizing unnecessary movements across the factory floor in search for information. All actions are confirmed using the hand-held barcode scanner.

Agilis Tray Magazine

The Agilis Tray Magazine (ATM) is the ideal tray feeding solution for most production environments, handling up to eight JEDEC trays in a single magazine slot. The ATM's user-friendly tray holders feature a unique ID chip and a matching barcode, making the loading process just as safe and easy as with any other Agilis feeder. Exchanging or refilling a tray is done in less than a minute, and the operator is guided by an LED indicator showing which tray needs to be replaced.



Software that **streamlines any mix**

Rising complexity. High part number count. More NPIs. And ever-changing production schedules. In today's manufacturing environment, the right software is vital to getting the most out of every machine, operator and material movement on your factory floor. Designed specifically for high-mix assembly, Mycronic's software suite covers the entire production chain with fully integrated applications tailored to the most complex manufacturing environments imaginable.

Seamless planning, preparation and material handling

MYCenter, MYPlan and MYCenter PRM (Proactive Replenishment Monitor) combine with the Agilis feeder system to provide the industry's most productive kitting assistance, planning and job preparation workflows.

Improve uptime and accuracy with MYCenter PRM

- Automated proactive replenishment with MYTower solutions
- Optimize job sequences and changeovers with highly automated planning, kitting, assembly, replenishment and dekitting workflows
- Achieve 100% stock accuracy including the quantity, batch code, current location and floor life of every component

Error-free data preparation with MYCenter

- Automatically convert all Gerber and ASCII-based CAD formats
- Import Bill-of-Materials including alternative components
- "What you see is what you get" graphical editing interface
- Verify orientation and package data with Gerber background

Seamless planning and scheduling with MYPlan

- Job sequence optimizer calculates the best production sequence and changeover strategy for any product or batch size mix
- Automatically predict assembly, kitting and changeover times
- Adapt production on-the-fly and automatically recalculate the optimal feeder and job sequence

Full traceability and process control

Automatically harvest traceability data for secure storage, transfer and searchability. And take control of production performance with a pick-and-place analysis dashboard that helps increase utilization, reduce reject rates and improve line balancing in real time.



Full traceability with MYTrace

- Automatically capture PCB batch IDs and individual IDs with the machine's fiducial camera, conveyor-mounted scanner or hand-held scanner
- Store data safely for decades for easy searching and reporting
- Extract traceability data in seconds with a simple part number and batch code search

Boost utilization with MYCenter Analysis

- Web-based dashboard showing state of line, number of boards produced, cycle time, efficiency and workload balance in real time
- Compare current utilization with historical data, plan interventions and refine production efficiency from anywhere, on any device
- Identify bottlenecks and analyze component misspicks and rejects, followed by detailed drill-downs into individual mounthead nozzle and component images

Plug-and-play connectivity with zero custom integration

- MYPro Connect makes it possible to connect any MYPro series SMT equipment to any enterprise system while keeping costs fully in control. No in-house custom integration. No lengthy implementation. And no future disruptions.
- Monitoring and traceability: Easy data export from SMT line to calculate production KPIs, WIP tracking and factory-wide traceability
 - Changeovers: Remotely manage recipes, handle changeovers and prevent program selection errors, especially when switching between variants
 - Interlocking: Validate the state of each board before continued processing, with automatic verification of PCB ID prior to loading program on next equipment

From bare board to finished product

Integrated MYPro solutions for every process

Combine the freedom of a MYPro MY700 Jet Printer with the throughput of a MYPro S series stencil printer. Maximize yield with advanced SPI and AOI. And combine the industry's most flexible pick-and-place solutions with intelligent near-production storage. MYPro solutions are designed for modular integration into any factory setup. Whether it's a high-throughput pick-and-place workcell, a self-correcting zero-defect solder printing solution or a full MYPro line covering all process steps, MYPro assembly solutions have you covered.

High-capacity workcells

Combine two MYPro A40DX Synergy lines into a single workcell with 236,000 cph capacity. Add any combination of MYTower component storage solutions. And achieve continuous high-speed production with a proactive, fully automated

material flow with fewer operators. Switch effortlessly from NPIs and small test batches to volume production, while just a single operator maintains full control of hundreds of thousands of components thanks to software-driven proactive replenishment and complete material tracking.

MYTower storage solutions

The MYTower is a highly flexible, automated and expandable buffer storage unit. Designed for near-production deployment, it ensures that the right components remain stored in the correct place and in a controlled atmosphere, always ready for quick and smooth line changeovers. In less than two square meters of floor space, the MYTower X series stores up to 1,988 reels for easy loading and unloading in the most demanding, fast-paced environments.



MYPro A40DX Synergy line including a zero defect printing solution and 3D inspection technology

Print perfection for 100% yield

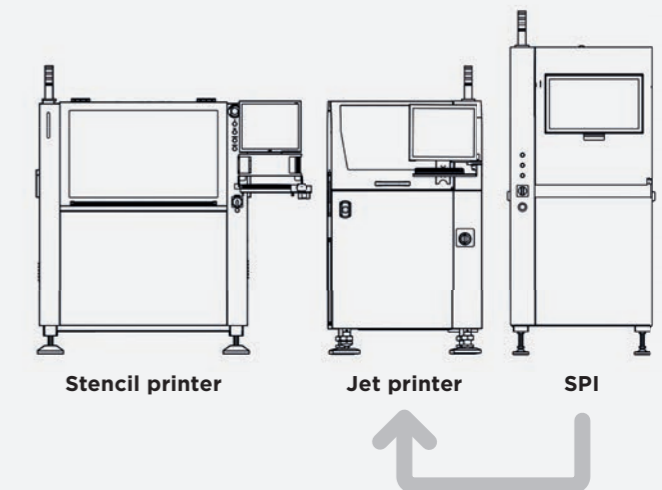
To keep pace with the output of a MYPro A40 Synergy line, the MYPro S series stencil printer is a reliable, worry-free workhorse enabling cycle times as fast as 14 seconds. Combine with the design freedom of a MY700 jet printer and the accuracy of PI series 3D SPI, and you can completely eliminate solder printing defects from your assembly process.

Zero-defect printing solutions

Eliminate print defects to achieve 100% yield. Mycronic's zero-defect printing solutions combine stencil, jet printing and 3D SPI technologies in-line to fully correct any missing or insufficient deposit before it enters the placement process. Since 60-70% of SMT defects can be traced to the printing process, this means that up to two-thirds of all defects generated by an average SMT line can be completely eradicated.

Repair

This configuration creates a closed-loop add-on and repair system following screen printing and inspection. Simply stencil print, inspect and let the jet printer repair, add deposit volumes or top up insufficient deposits automatically following direct instructions from the SPI.



Add-on & repair

This configuration introduces a hybrid stencil printing and jet printing solution before the solder paste inspection process. The stencil printer offers unbeatable cycle time for average deposits. The Mycronic MY700 Jet Printer handles all deposits with non-average thickness or shape. And the SPI automatically detects any missing paste deposits before generating a repair file for the jet printer, where the defective board is transported and corrected, adding solder paste according to the repair instructions linked with the unique PCB barcode.

Bringing tomorrow's electronics to life

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