The latest in **intelligent component handling**

Smart feeders

Award-winning intelligent feeder systems

As today's variety of SMT components grows, so does the need for smarter, more flexible feeder solutions. Agilis tape and stick feeders and tray handling systems are designed to meet this demand. While the word "intelligent" has become something of a buzzword today, we at Mycronic call our feeders intelligent as they provide quantity and location tracking, operator guidance, simplified data entry, moisture sensitive device (MSD) handling and on-the-fly changeovers. In short, our feeders are designed to make our customers' work more efficient and therefore more productive.

HANDLE ANY COMPONENT
Mycronic's modular feeder system ensures both unrivalled flexibility and ease of use. Choose from a combination of intelligent feeders and magazines covering tape, stick and tray carriers, all of which are designed to handle the full range of today's SMT components. Mix, switch and reload components as production needs change, and the system will instantly re-optimize to maintain the highest possible efficiency at all times.

ENJOY THE INDUSTRY'S FASTEST AND MOST HELPFUL FEEDER
The standard Agilis tape feeder can be loaded in less than ten seconds. Ultra-compact and comprising 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.

Specially designed software automatically recognizes the presence, absence and location of components, which means you never have to program pick positions and production doesn't stop if a feeders runs out of parts. Instead, the machine alerts the operator, re-optimizes and continues mounting other components. You can also replenish feeders quickly and easily while the machine is mounting.

Whatever your production size, barcode scanning eliminates manual entry of feeding parameters during loading and unloading, making setups and changeovers faster than ever.

KEEP TRACK OF COMPONENT DATA AT ALL TIMES
From component storage and retrieval to loading and optimization, components are automatically traced every step of the way. As all magazines and Agilis feeders are given a unique ID, the operator can check quantity, location, MSD data and batch codes at any point during production.
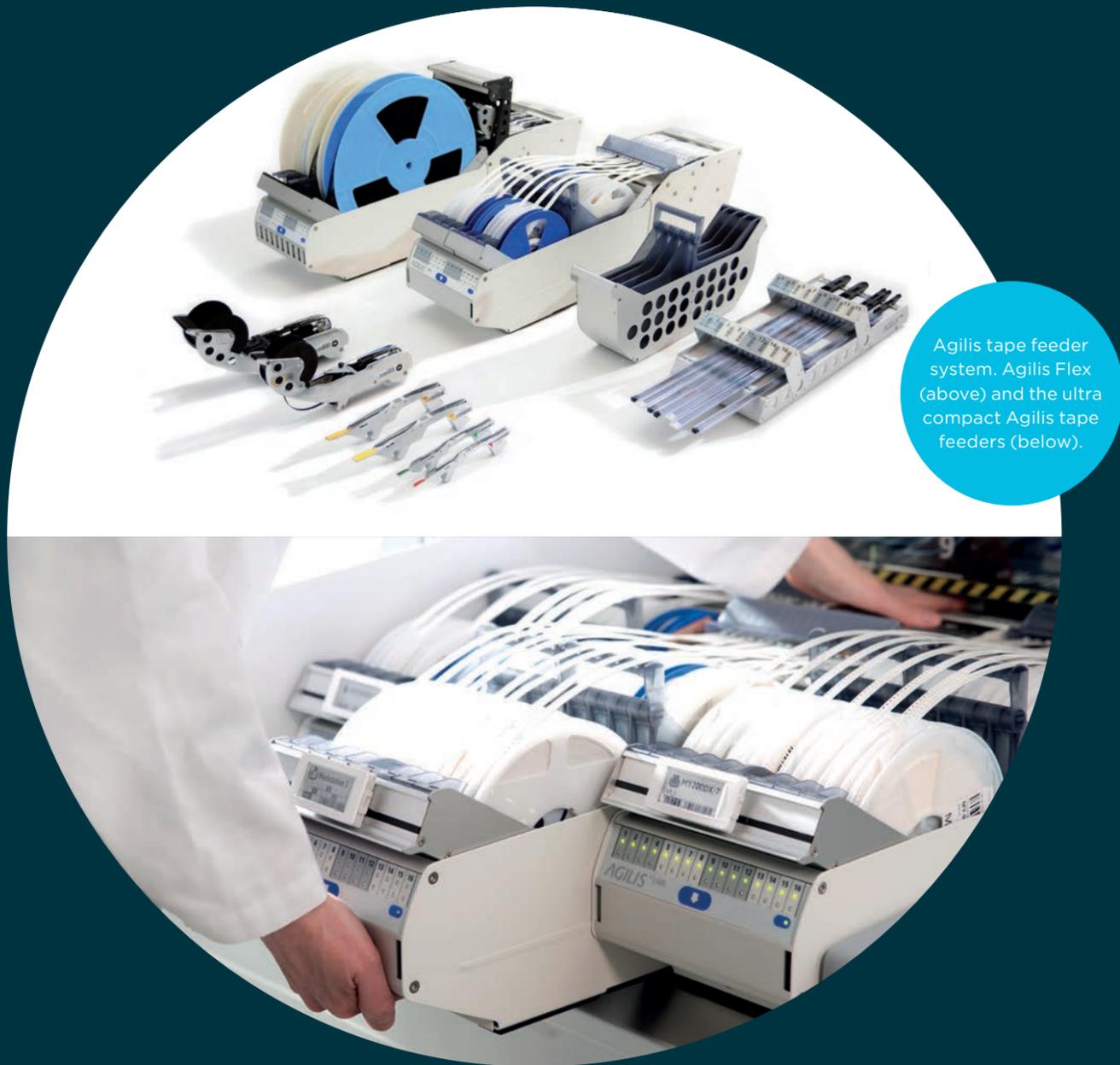
Regardless of whether you request a single feeder or tray, or automatically process a complete kitting list, the system records every movement and seamlessly keeps track of all stored reels and component quantities.

Mycronic feeder systems provide the most intelligent and agile component delivery solution on the market. Whether it's tape, stick or matrix tray feeders, or components of any shape and size, Mycronic's feeders are designed to deliver the utmost in reliability, performance and easy operation.

Advantages of intelligent feeder systems
- Fast and accurate setups and changeover
- 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

The Agilis feeder system is designed to handle practically all tape and stick components. The simplicity of its design means you can now load and unload feeders in a flash and save countless hours of operator time.

Agilis tape feeder system. Agilis Flex (above) and the ultra compact Agilis tape feeders (below).

Agilis™
The groundbreaking concept continues

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. Now, using the new 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.

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.

For fast handling and traceability, unique barcodes identify specific component reels and connect them to a particular feeder. The machine automatically detects the location of each reel based on the feeder's unique identity. This allows you to rearrange the feeders into any position in the machine, even during operation. Fine-tuning in both the x- and

y-axes is done automatically through pick offset data registered by the vision system. The magazine has a linear motion mechanism, which ensures smoother, faster and more controlled acceleration and deceleration.

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.

The compact Agilis tape feeder is extremely fast to load.

Time savings per month when using Agilis compared to standard feeders

Number of feeders loaded or unloaded per day	90 seconds time saving per feeder	60 seconds time saving per feeder	45 seconds time saving per feeder	30 seconds time saving per feeder
100	50 hrs	33 hrs	25 hrs	16 hrs
200	100 hrs	66 hrs	50 hrs	33 hrs
500	250 hrs	166 hrs	125 hrs	83 hrs
1,000	500 hrs	333 hrs	250 hrs	166 hrs

Agilis stick magazine effectively handles any component on stick.

AGILIS FLEX — HANDLE ANY COMPONENT ON TAPE

The Agilis Flex feeder represents an evolution of the Agilis concept, this time in a wider, more flexible format. As intelligent as the compact Agilis tape feeder and the ability to interchange with any feeder position, Agilis Flex now offers you the possibility to handle any tape component, from 8 to 152 mm in width, with pocket depths that accommodate even the thickest, tallest components. Whatever tape components arrive on your production floor, rest assured: Agilis Flex is built to handle them.

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.
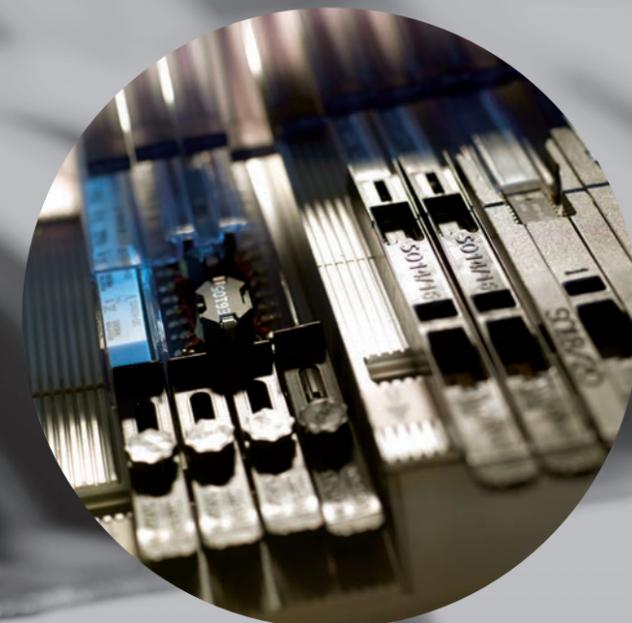
INCREASED THROUGHPUT WITH ASM

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. Because the ASM handles a very wide range of SMT components — from the smallest TSSOP to large PLCCs and high connectors — you will always be prepared for any job. 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. Feeding is automatically calculated based on component data entered prior to loading. Pick-up positions are automatically localized and trimmed as well, thus eliminating the setup and changeover time associated with other stick feeders. With ASM, you can simply plug in and go.

Agilis stick pallet with a capacity for 16 pcs of 10 mm sticks.

Tray solutions for any volume

When it comes to components on matrix trays, Mycronic offers optimized solutions for any production volume. Whether small, average or large, all are highly cost-efficient. We also offer smart functions for component management and replenishment to further boost your productivity.

ATM
— for medium to large volumes

The Agilis Tray Magazine (ATM) is the ideal tray feeding solution for most production environments, by offering the possibility to handle 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 easy and safe 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. The pick-and-place machine will continue mounting non-tray components while the ATM is being replenished. To protect delicate components, tray accelerations are software controlled. If your production needs change, you can easily remove the ATM and retrofit it into any position in the machine.

The Agilis Tray Magazine takes up only one slot and can hold up to eight JEDEC trays.

TWM
— for average tray volumes

The Tray Wagon Magazine (TWM) provides matrix tray capability for use when limited quantities of trays are required. The magazine is fitted within the machine's ordinary magazine slot in the same manner as with tape and stick magazines. The matrix trays are placed on a servo-controlled tray table that positions the components on the tray in the pick-up position. The tray table is interchangeable with the other available sizes — from the smaller single 'module' (occupies one magazine slot in the machine) up to the largest (occupies three magazine slots).

Tray Wagon Magazine has a capacity of up to three JEDEC trays.

FLEXIBLE TRAY HOLDER
— for small tray volumes

The Flexible Tray Holder is an effective unit for handling single-matrix trays. Four magnetic corner holders and four under-tray supports can affix trays of any size. There are no adjustments to be made and no tools required. Simply position a tray with the holders, teach the machine software its location and start mounting.

Flexible Tray Holder is an effective unit for small tray volumes.

Get the most out of your machine

Even with the industry's most agile feeder systems, there are times when standard solutions won't suffice. Should you have special feeder requirements, we can help build a solution to fit your application. From magazine and stick positioner alterations to a specially designed range of accessories, we do everything we can to help you get more out of your feeders and equipment.

Agilis Smart Bins
Increase your flexibility and efficiency by preloading material in Agilis Smart Bins. An electronic label, attached to the front of the bin, communicates with the MYCenter SW via a radio base station. The result is intuitive paperless kitting guidance — right in front of you.

Agilis bins for efficient off-line preparation.

Large-reel attachment
The optional large-reel attachment extends your feeding capability up to 24" tape reels, for tape widths ranging from 8 mm to 152 mm. Available for Agilis and Agilis Flex.

LRA for even the largest tape reels.

Stick positioning
A variety of positioners are available to suit standard and non-standard components. A positioner affixes a stick in the stick magazine and positions the component in the pick-up position. Mycronic can also custom-design positioners upon request for odd and unusual components.

A wide range of snap-in stick positioners available.

Tape Clip Magazine
Minimize production costs by using the Tape Clip Magazine to handle short tape clips. With its width adjustment capability, different combinations of tape sizes can be fitted alongside each other in the magazine. The Tape Clip Magazine is available in two sizes, with a maximum capacity of 5 and 11 pieces of 8 mm tape, respectively.

Handle short tape clips with the Tape Clip Magazine.

Generic Feeder Interface
The Generic Feeder Interface (GFI) is just one example of Mycronic's customized solutions. The GFI enables you to connect and run various special applications as well as third-party feeders from the magazine slot in a Mycronic machine. More information about this possibility is available upon request.

The Generic Feeder Interface available for special applications.

Specifications

AGILIS	
Typical components	01005 up to PLCC20
Tape widths (number of feeders in magazine)	4 mm (max 16 pcs) 8 mm (max 16 pcs) 12, 16 mm (max 8 pcs)
Tape depth	2.5 mm (width 8) 10.5 mm (width 12 and 16)
Tape material	Plastic, paper, metal
Reel size	180 mm (7"), 330 mm (13")

AGILIS FLEX	
Typical components	0402 to LEDs, large PLCCs and connectors
Tape widths	8, 12 mm (max 8 pcs) 16, 24 mm (max 5 pcs) 32 mm (max 4 pcs) 44 mm (max 3 pcs) 56, 72 mm (max 2 pcs) 88, 104, 120, 136, 152 mm (max 1 pcs)
Tape depth	15 mm pockets with Flex Bin, 22 mm pockets with LRA (optional)
Tape material	Plastic, paper
Reel size	180 mm (7") to 330 mm (13"), larger reels on LRA (optional)

AGILIS STICK MAGAZINE	
Stick pallet types	ASP10 and ASP1028, removable with ID and barcode
Max stick capacity	16 pcs of 10 mm positions
Typical components	SOIC, DPAK, PLCC, connectors
Max component length	50 mm
Max stick width	Machine dependent, max 160 mm
Max stick height ASP10	10.5 mm
Max stick height ASP1028	10.5 mm in position 1–8 28.5 mm in position 9–16

TWM	
Tray table size	Capacity
1 module	1 JEDEC tray
2 modules	2 JEDEC trays
3 modules	3 JEDEC trays

AGILIS TRAY MAGAZINE	
Pallet capacity	8 pallets
Cycle time (tray-to-tray)	1.9 s
Tray row change	230 ms
Max tray weight (single tray) at max speed	0.5 kg
Max tray weight (all trays)	4 kg
Max tray size (JEDEC standard)	315 x 135.9 mm
ATM dimension	923 x 520 x 177 mm (L x H x W)
ATM weight	25.5 kg

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