



MIKRON ECOLINE™
Solutions for the assembling of products



A close-up photograph of a complex industrial machine, likely a CNC lathe or mill. The machine features various metal components, including a large, dark blue vertical structure. In the foreground, there are several cylindrical metal parts and a blue cable with white connectors. A red laser line is visible on one of the metal parts. The background is slightly blurred, showing more of the machine's structure.

THE INNOVATIVE FEATURES OF MIKRON ECOLINE
ACHIEVE **THE PERFECT BALANCE** BETWEEN
STANDARD AND CUSTOMIZED ASSEMBLY
PROCESSES. PROGRESSIVE INVESTMENT, MULTIPLE
PRODUCT VARIANTS AND COMPLEX PROCESSES
IN A SINGLE AUTOMATED PLATFORM.

THE MIKRON ECOLINE™ – STANDARD PLATFORM FOR YOUR AUTOMATION SOLUTION

The linear automated assembly concept Mikron EcoLine is based on the use of standard modules which offer flexibility and modularity. The EcoLine is available in single module and double module base machines. These machines can be linked side by side or back to back to optimize the layout for the production facility. When combined with standard linking module and manual working stations, the

EcoLine offers progressive investment from a pilot line to a fully automatic line. The primary motions of the assembly module are cam driven, thus guaranteeing perfect synchronization between the working units and the pallet indexing mechanism. Each assembly step is followed by a systematic check to ensure continuous and consistent quality.



Mikron EcoLine 1 Module



Mikron EcoLine 2 Modules

YOUR BENEFITS

Modular adaptability, flexible configuration

Modular adaptability, flexible configuration to deliver great flexibility, Mikron EcoLine is able to combine its single Module or double Module cells with a full range of linking modules and/or manual working stations. This gives you the best solution adapted to your needs.

Ergonomic design working areas on both sides

With its possibility to work on one or both sides of the machine, Mikron EcoLine offers a small footprint. Each module can accommodate up to 12 stations.

Progressive investment

Entering the market quickly, reacting to changes in volume requirements; the EcoLine solution meets the demand with a high level of responsiveness. When volume increase is required the linking modules and manual working stations are easily replaced with an assembly module built and tested at the Mikron facility prior to shipment.

Applicable for medical devices industry

To respond to these specific requirements, Mikron Automation assures, that its platforms are fully compliant with the latest applicable certification standards right from the concept phase. The Mikron EcoLine base machine – hardware and software – is validated according to GAMP 5 and can work in clean room conditions up to ISO 7 (10,000).

Easy programming and operation

Effortless operation, rapid learning and system mastery are accessible through the touch screen HMI (Human Machine Interface). The control software is specially designed for ease of use and the simple interface makes it easy to configure standard functions.

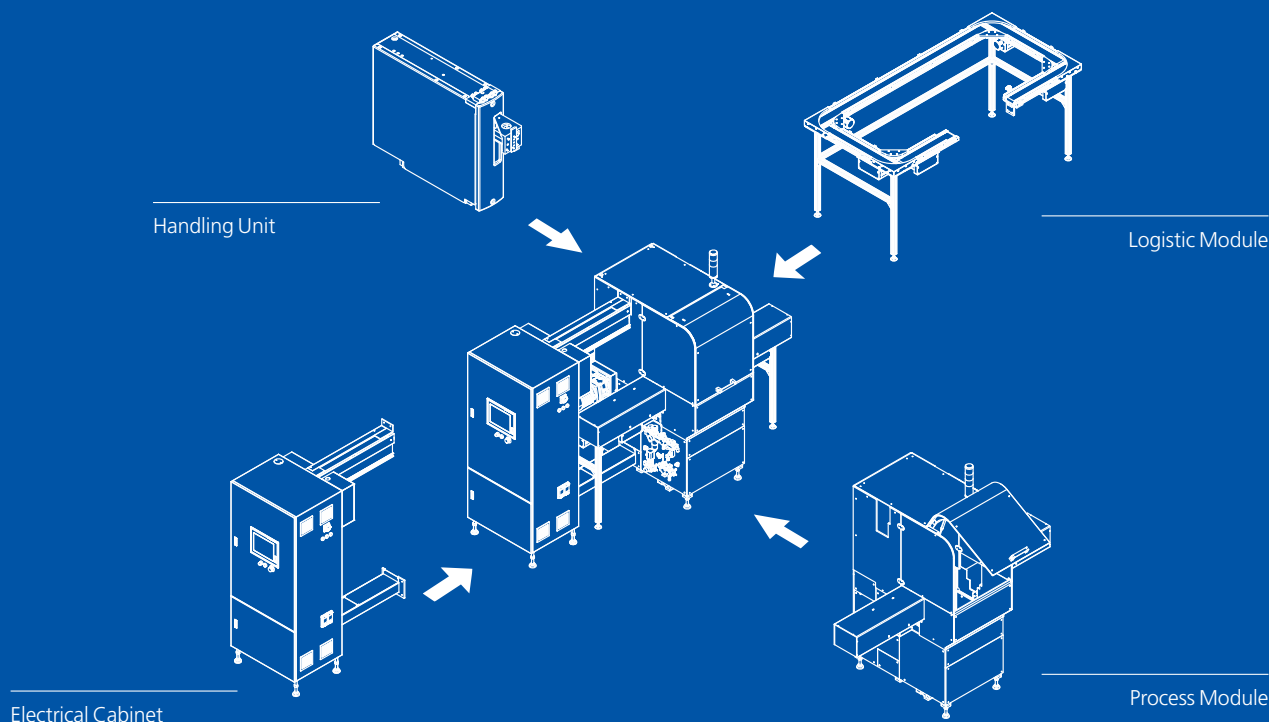
Process integration capability

Based on our vast experience, Mikron Automation has the capability to develop and integrate simple to very complex processes. We integrate processes such as welding systems, robotics, vision systems, measurement, functional test systems, dispensing systems and tray handling systems, as well as many other customer specific processes which may be required.

5 REASONS TO WORK WITH MIKRON

1. Proven know-how – over 100 years of experience with precision machinery – close to 40 years in assembly
2. Reliable and technical production solutions with high added value – mastery of complex processes, standard and proven automation platforms
3. Short delivery time – quicker time to market
4. Mikron worldwide organization is committed to your project success – from project fulfillment to 24/7 customer service
5. Long-term partnership – industry references

THE ECOLINE PLATFORM CONCEPT IS BASED ON STANDARDIZED BUILDING BLOCK ELEMENTS; A STABLE AND PROVEN BASE MACHINE TO BUILD COMPLEX AUTOMATION SOLUTIONS



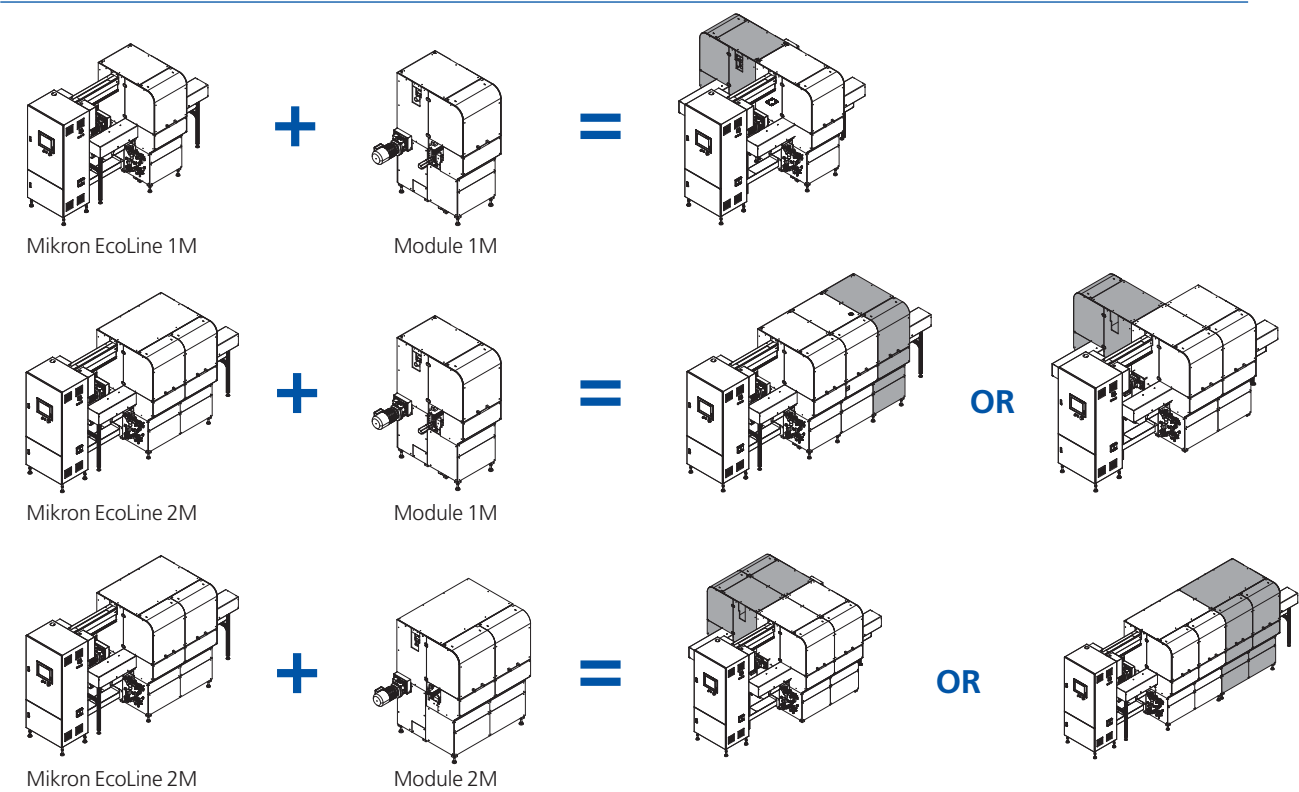
TECHNICAL SPECIFICATIONS

Standardized linear concept with power and free pallets, servo indexed and mechanically locked inside the process cell

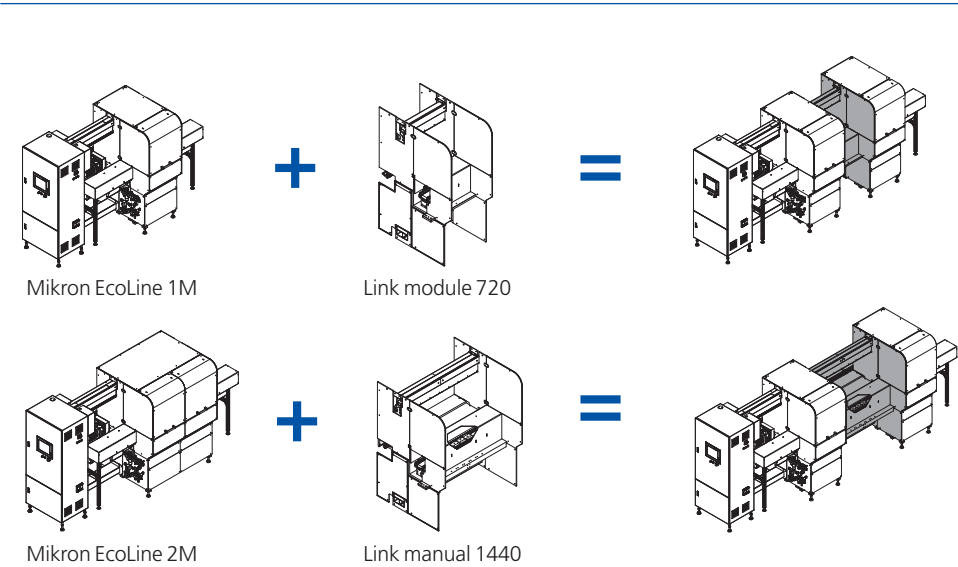
		STANDARD PLATFORMS	
		1 M	2 M
Assembled product size	Products that can be hold in a hand	✓	✓
Working area	One side of the module only, but possibility to have back to back modules	✓	✓
Pallet size	120 mm or 240 mm	✓	✓
Assembly Speed	up to 40 cycles/min (Pallet 120mm) Multiple assemblies per pallet	✓	✓
Indexing repeatability	+/- 0.02 mm	✓	✓
Number of stations	Handling Unit 120mm (60 mm)	6 (12)	12 (24)
Dimensions	Length x Width x Height (mm)	3150 x 1430 x 2420	3870 x 1430 x 2420
Control System	PLC Allen-Bradley or Siemens with open architecture	✓	✓
Process Integration	Mechanical, pneumatic or servo driven handling and process units, Cartesian robot unit, manual working stations, customer project-specific processes, feeders and palletizers	✓	✓
Cleanroom	The standard cell is compatible for cleanroom ISO 7 (class 10,000)	✓	✓
Validation	Validated base machine according to GAMP 5. The standard cell is conformed to CE marking	✓	✓

SOLUTIONS ADAPTED TO YOUR NEEDS: FROM PILOT TO FULLY AUTOMATED LINE

POSSIBLE CONFIGURATION OF MASTER AND SLAVES



POSSIBLE CONFIGURATION OF LINKING MODULES AND MANUAL WORKING STATIONS



ABOUT US

Mikron Automation is headquartered in Boudry (Neuchâtel), in a region that is regarded as the heart of the Swiss watchmaking industry. To date, Mikron Automation has installed more than 3,000 assembly and testing systems worldwide. Its international customers operate in the following markets: Pharma and Medical Devices, Automotive Supply, Electrical/Electronics, Consumer Goods and Construction/Building. Mikron Automation employs around 590 people at its sites in Boudry (Switzerland, headquarters), Berlin (Germany), Denver (USA), Singapore and Shanghai (China).

Mikron Singapore Pte Ltd
61 Tai Seng Ave, #05-11
Singapore 534167

Tel. +65 6299 1589
msi@mikron.com

Mikron Corp. Denver
8100 S Potomac St.
Englewood CO 80112
USA

Tel. +1 303 364 5222
mde@mikron.com

Mikron Berlin GmbH
Landsbergerstrasse 252
12623 Berlin
Deutschland

Tel. +49 30 9830 7211
mab@mikron.com

Mikron SA Boudry
Route du Vignoble 17
2017 Boudry
Switzerland

Tel. +41 32 843 11 11
mbo@mikron.com

Mikron Industrial
Equipment (Shanghai) Co., Ltd.
No 358, 3rd Factory
Dong Ye, Dong Jing Town,
Song Jiang District
Shanghai China 201619
Tel. +86 21 6767 9681
msh@mikron.com

www.mikron.com/automation