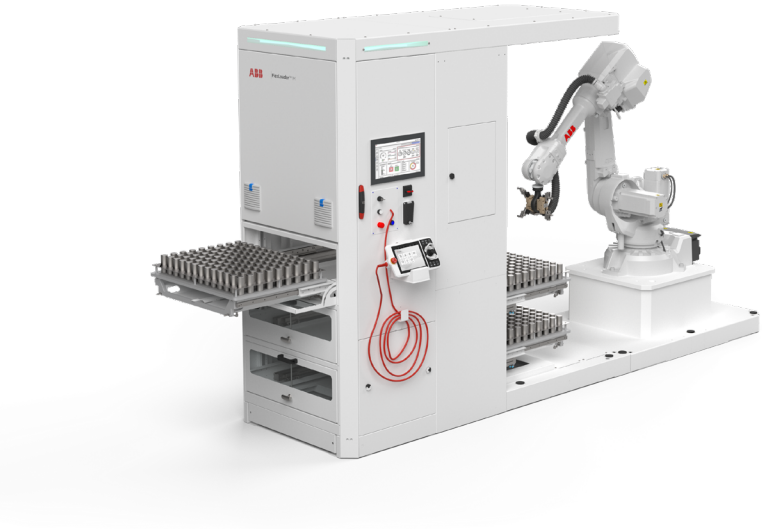
ABB ROBOTICS

FlexLoader™ M Tray

Opening new possibilities for modular robotic machine tending



The FlexLoader M Tray is a modular machine tending cell that increases machine tool utilization by as much as 60 percent while reducing operational costs. Using intuitive software that makes it easy to load workpieces, FlexLoader M Tray enables efficient production with long-unmanned operation time.

The Power of Modularity
FlexLoader M is an innovative, flexible and easy-to-use family of machine tending cells that can be configured for all of today's challenging manufacturing demands. With a wide choice of functional modules, FlexLoader M cells can be easily adjusted to handle anything from automation of single workpieces through to pallet handling or large batches.

Simple Machine Tending with Flexloader M Tray
The Tray module offers easy machine tending with or without vision guiding. The FlexLoader M Tray is a drawer solution offering easy machine tending. With a minimal footprint that allows it to be located almost anywhere, it is ideal for handling a variety of workpieces with variable shapes such as cubes, cylinders, plates and pipes. If required, vision can be added for more complex parts.

Extend Manufacturing Time with Unmanned Shifts
FlexLoader M cells deliver machine utilization of at least 97 percent, compared to 40–60 percent in most manually operated machines. This enables you to add more production hours per day and improve your machine tool productivity.

Key Benefits

- FlexLoader M Tray comes with a state-of-the-art software suite for machine tending operations featuring digitalization tools such as order management, downtime reporting and fleet management
- The tray holds up to 133 workpieces enabling many hours of unmannedproduction. For example, 120 pieces with 6 minutes cycle time gives 12 hours unmanned production time per tray
- The footprint of the cell can be as little as 2.3 m^2 including the robot, minimizing the space required for installation
- Flexible design with interchangeable trays allows a wide variety of workpieces to be handled, from 13 to 250 mm
- Interchangeable feeding module makes it easy to maintain, service and rebuild FlexLoader M when needed
- Smart wizard enables new workpieces to be introduced in minutes with no need for robot programming skills
- Optional workpiece stacking for enhanced throughput
- Refilling of workpieces during operation

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01
Example of 3 drawer open front version with floor scanner

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02
Example of 2 drawer open front version with floor scanner

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03
Example of 2 drawer open front version with floor scanner

Included in FlexLoader M Tray

- FlexLoader M Vision
  - Order Management
  - Fleet Management
  - OEE-module
  - Production dashboards
- Industrial PC with Windows 10 (EN)
- 16” Touch Screen Control
- ABB robot depending on payload and reach
- Safety solution depending on need

Options	
Drawers	2 or 3
Tray pattern	Standard pattern or customized
Teach-In	Parametric (standard) 2D vision (option)
Suitable robot models	From IRB 1600 to IRB 6700
Type of Robot stand	Wall-mounted, short, long, tilted
Cell level	Function packages, standard cell or turnkey cell
Post-process accessories	Deburring, air-cleaning, washing, measuring, statistic outlet
Safety / Machine Protection	Floor scanner, doors & panels

Technical information	
Length (mm)	2 145
Width (mm)	1 060
Height (mm)	2 408
Workpices size (mm)	13 – 250
Tray size (mm)	820 x 650
Max workpiece height (mm)	100 or 250 depending on 2 or 3 drawers
Max tray weight (kg)	70 kg
Max number of workpieces per tray	133
Certificates	UL/CSA, Prep. for CE labelling 2B
Mains voltage	220V – 600V
Operating temperature	Max 45 C (std) Max 52 C (option)
Machine tool interface	Safety interface, Profinet

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