ROBOTICS

FlexLoader™ FP 400

Function package for flexible machine tending

FlexLoader FP 400 is a pre-engineered and proven function package for machine tending of large workpieces tipped directly onto a buffer conveyor belt, preconfigured and ready to use for fast integration. The built-in vision system is one of the easiest-to-use operator interfaces on the market.

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01 FlexLoader FP 400 with IRB 2600 robot.

ABB's FlexLoader FP 400 capitalizes on ABB's long experience in developing and manufacturing machine tending solutions for integrators and end-users worldwide in machining operations.

A pre-engineered function package
The FlexLoader FP 400 simplifies the transition from manual to robotic machine tending. The main benefits are the usability, high availability, and large buffer. It replaces manual tending and other feeders when a short cycle time is required. FlexLoader FP 400 has a long unattended running time and can handle complex workpieces up to 250 mm and 0.5 kg in weight with cycle times as short as 2 seconds depending on geometry.

Easy to integrate for integrators
No need to spend valuable engineering time to design one-off, customized cells and no need to design a pre-verified, optimal machine feeder. The function package comes prepared with robot interface, safety functions and ready to use RAPID application code.

User friendly interface
The simplicity of FlexLoader Vision lets the operator teach in new workpieces in just a few minutes and switch between batches is even faster.

Ease of use
To operate the function package, the operator loads a pallet with workpieces to be processed onto a pallet tipper that also functions as a buffer, while the robot picks a workpiece from the belt and feeds it to one or more processing machines or assembly stations. This enables FlexLoader FP 400 to under-take unmanned production for long periods of time.

Features
- Specifically designed for robot guidance
- Tight integration of control and communication with robot
- High performance FlexLoader Vision algorithms from Matrox Imaging
- Automatic gripping tool collision avoidance
- Identification and discrimination of different workpieces
- Proven and ready to use RAPID application code templates
- Effective part separation by conveyors
- Graphical user interface for parametrical setup for conveyors for each workpiece
- Configurable graphical presentation of cell information
- FlexLoader integrates an OPC-UA server for distribution of robot data

Benefits

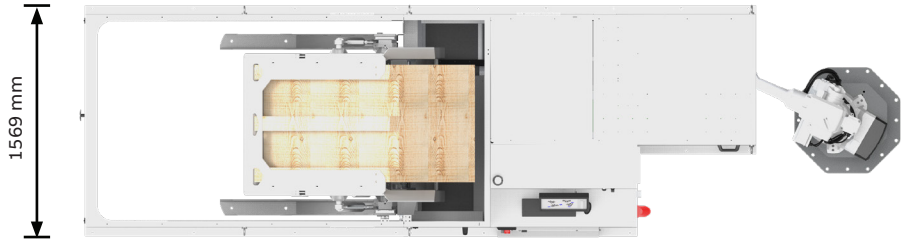
- Built on a single baseplate
- Easy to install
- High availability for random feeding of workpieces
- No need for special fixtures
- Reduces the operator time by approximately 60%
- Suitable for tending transfer machines
- Quick changeover time

Included in FlexLoader FP 400

- FlexLoader Vision for machine tending
- Calibration tools
- A suitable ABB robot depending on payload and reach
- Integrated robot controller and electrical equipment
- RAPID code for FlexLoader Vision and FlexLoader FP 400 as well as application code templates.

Technical information

	Description
Standard robots - payload (kg) /reach (m)	IRB 1410-5/1.45m IRB 1600-10/1.45m IRB 2600-12/1.85m IRB 4600-40/2.55m Other robot variants are available on request.
Height (mm)	2 159
Height with pallet lift up (mm)	3 176
Width (mm)	1 569
Length with pallet tilt (mm)	4 573
Certificates	Prep. for CE labelling 2B (Declaration of incorporation according to Machinery directive 2006/42/EG)
Mains voltage	3x400 V, 50 Hz 3x480 V, 60 Hz
Power consumption	Less than 1kW depending on IRB selection
Operating temperature	Max 45°C
Airborne noise level	< 74 dB (A) Leq / 1m (according to Machinery directive 2006/42/EG). May require noise damping options.



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