

FlexLoader™ FP 300

Function package for flexible machine tending



—
01 FlexLoader FP 300
with IRB 1200 robot.

ABB's FlexLoader FP 300 capitalizes on ABB's long experience in developing and manufacturing machine tending solutions for integrators and end-users worldwide in machining and injection molding operations.

A pre-engineered function package

The FlexLoader FP 300 is a pre-engineered and proven function package that simplifies the transition from manual to robotic machine tending. The main benefits are the usability, high availability, and small footprint. It replaces manual tending and other feeders when a short cycle time is required. FlexLoader FP 300 is quickly and easily installed or moved. The whole function package, including the robot, is built on a single baseplate and takes up very little space.

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 tool feeder. The function package comes prepared with robot interface, safety functions and ready to use RAPID application code.

User-friendly interface

The powerful built-in vision system, FlexLoader Vision, can handle complex workpieces between 5 - 120 mm with cycle time as short as 3 seconds depending on geometry.

FlexLoader FP 300 is a compact and proven function package for machine tending and assembly operations, preconfigured and ready to use for fast integration. The solution is a combination of robust hardware and intelligent vision software. It is an ideal solution for instance to tend small workpieces to transfer machines with short cycle times.

The simplicity of FlexLoader Vision lets the operator teachin new workpieces in just a few minutes, and switch between batches is done even faster.

A complete ready-to-use package

To operate the function package, the operator pours the workpieces to be processed on a vibrating conveyor belt, 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. Thanks to this, FlexLoader FP 300 provides the opportunity of unmanned production for long periods of time.

Features

- Specifically designed for robot guidance
- Tight integration of control and communication with robot
- Automatic gripping tool collision avoidance
- High performance FlexLoader Vision algorithms from Matrox Imaging
- Identification and discrimination of different workpieces
- Proven and ready to use RAPID application code templates
- Effective part separation by vibrating conveyors
- Graphical user interface for parametrical setup for conveyors for each workpiece

Benefits

- Built on a single baseplate
- Small footprint
- Easy to install
- No need for special fixtures
- Integrated safety functions
- Reduces the operator time up to 60% compared to manual tending
- Suitable for castings
- Quick changeover time
- High availability for chaotic feeding of workpieces

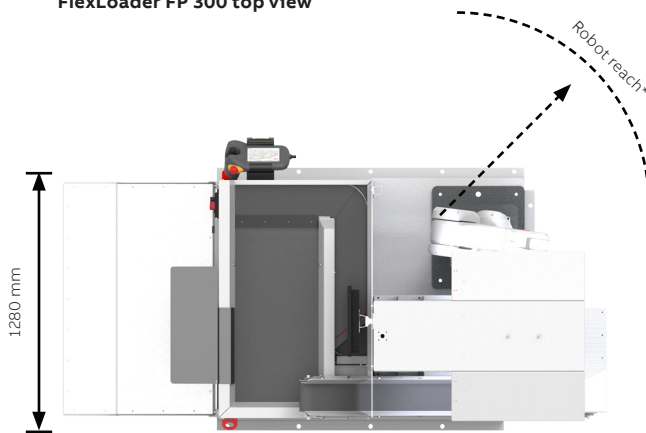
Included in FlexLoader FP 300

- FlexLoader Vision for machine tool 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 300 as well as application code templates.

Technical information

	Description
Standard robots - payload (kg) /reach (m)	IRB 120 - 3/0.6 IRB 140 - 6/0.8 IRB 1200 - 5/0.7 IRB 1600 - 10/1.45 Other robots available on request.
Buffer belt (mm)	400 x 800
Height (mm)	2095
Width (mm)	1280
Length (mm)	2560
Certificates	Prep. for CE labelling 2B (Declaration of incorporation according to Machinery directive 2006/42/EG) UL/CSA (require external electrical cabinet)
Mains voltage	3x400 V, 48.5 - 61.8 Hz
Power consumption	Less than 1 kW depending on IRB selection
Operating temperature	Max 45°C
Airborne noise level	< 74 dB (A) Leq / 1 m

FlexLoader FP 300 top view



*For extended reach the robot podest can be fixed outside the FP 300 base.

FlexLoader FP 300 side view

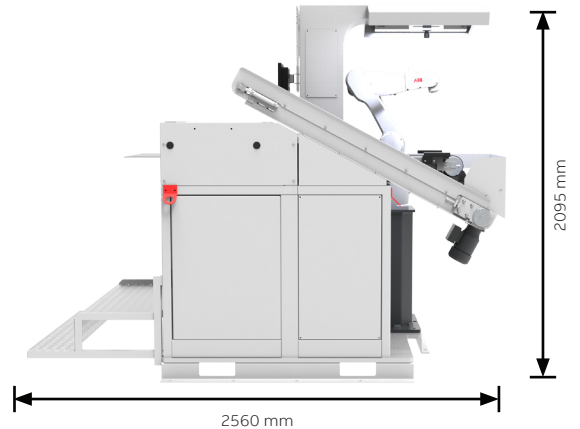


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