

FlexLoader™ SC 3000

Setting new standards in flexible machine tool tending



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01 FlexLoader SC 3000
with IRB 2600 robot,
twin doors and conveyor.

A leader in the development of automation solutions, ABB's FlexLoader SC 3000 sets the standard in flexible machine tool tending. The key characteristics of this model are its great modularity, small footprint and ease of use.

The FlexLoader SC 3000 is a pre-engineered, well-tested and reliable automation solution with safety built in. Modularity means users can customize the robot cell to meet any need. The two doors configuration enables two machining operations on each side or a swivel door that provides extra-large access to a single processing machine. The FlexLoader SC 3000 comes complete with a fully integrated robot with a pre-programmed robot code for a short installation time.

Delivers reliable production

Capable of handling both small batch and volume production, the FlexLoader SC 3000 comes equipped with a flexible three-finger gripper. For maximum cell utilization, post processes such as deburring tools, re-grip tables, marking units and air cleaning boxes can be added.

Vision-guided robotics

The FlexLoader SC 3000 utilizes the FlexLoader Vision that is specifically designed for robot guidance and has a very simple and intuitive workpiece teach-in

Standardized and flexible solution that increases machine tool utilization by as much as 60 percent while reducing operating costs.

process. The internal buffering system allows the machine to run free from operator supervision for hours, depending on the workpiece size and cycle time.

Maximization of manufacturing productivity

When compared with manual labor, robotic automation increases the machine tool utilization up to 60 percent. The nearly immediate returns – in some cases less than 12 months – is significant and tangible. The FlexLoader SC 3000 provides reliable and predictable output from the robot and machine tool. It facilitates higher machine tool utilization, up to a phenomenal 90 percent compared with traditional manual machine tools, which are in the range of 50 percent. This results in a much faster return on investment and gives a sustainable competitive advantage.

Simplicity

- Plug and play functionality
 - Place and bolt it on the front of the machine tool
 - Connect the power and compressed air
 - Connect the signal and safety interface to the machine tool
 - Adjust the flexible gripper solution
 - Calibrate the vision system, teach-in the first workpiece and adjust the robot program
- Teach-in new workpieces in just minutes

Standardization

- Based on standard components
 - Industry products and standards
- Standardized set of variants and options
 - Adaptations possible
- Efficient to command, operate, maintain, and provide service

Flexibility

- Fits small batches as well as large volume production
 - From series of 10's to series of 1000's depending on the application
 - Workpiece independent automation
- No need for fixtures
- Tends one or two processing machines
- Can be equipped with post-tending processes
- Workpiece sizes from 20 mm to 120 mm
- Easy access to the machining area for tool exchange, maintenance, manual operations and robot teaching

Robust and reliable

- Based on years of experience in delivering turnkey automation projects
- Well proven components
- Pre-built and well tested
- Options and features are assembled and tested prior to delivery
- Support and spare parts

Included in FlexLoader SC 3000

- FlexLoader vision for machine tool tending
- Calibration tools
- IRB 1600 or IRB 2600 robot depending on the payload and reach
- Conveyor belts
- Twin doors

Technical information

	IRB 1600-10/1.45	IRB 2600-12/1.85	IRB 2600-20/1.65
Length with conveyor (mm)	3 947	3 947	3 947
Width (mm) (without corridor)	1 010	1 010	1 010
Width (mm) (including doors)	2 360	2 360	2 360
Height (mm)	2 217	2 217	2 217
Weight (kg)	2 610	2 644	2 644
Robot model	IRB 1600	IRB 2600	IRB 2600
Robot payload (kg)	10	12	20
Robot reach (mm)	1 450	1 850	1 650
Armload	20.5	10	10
Certificates	UL/CSA	UL/CSA	UL/CSA
	Prep. for CE labelling 2B	Prep. for CE labelling 2B	Prep. for CE labelling 2B
Mains voltage	220V – 600V	220V – 600V	220V – 600V
Operating temperature	Max 45 C (std) Max 52 C (option)	Max 45 C (std) Max 52 C (option)	Max 45 C (std) Max 52 C (option)
In-conveyor width and length (mm)	430 mm x 2 000	430 mm x 2 000	430 mm x 2 000
Out-conveyor width and length (mm)	430 mm x 2 500	430 mm x 2 500	430 mm x 2 500
Max object/workpiece height (mm)	200	200	200
Max belt load (kg)	100	100	100
Machine tool interface	Safety interface Digital 24V I/O, 4 IN and 4 OUT	Safety interface Digital 24V I/O, 4 IN and 4 OUT	Safety interface Digital 24V I/O, 4 IN and 4 OUT