ROBOTICS

IRB 760 Twin XB

High speed flexible part transfer for inter-press automation

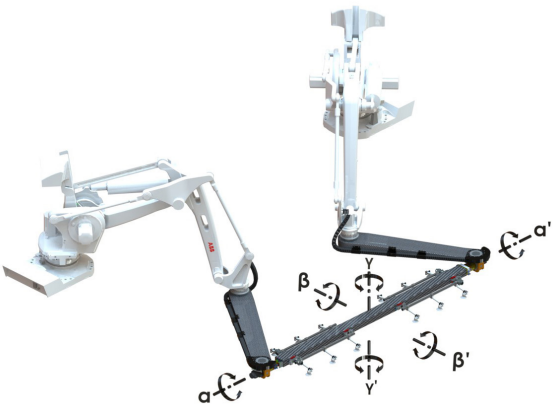
ABB has been developing robot based solutions for press automation since the 1990s. After successfully launching 7-axis robots, ABB presents the Twin Robot Xbar – TRX.

With a production output rate of up to 16 parts per minute (spm) in tandem press lines, fast and flexible part transfer in a straight trajectory, the TRX is perfectly suited for the high speed press automation segment.

Flexible robot-based solution for high speed segment
The TRX from ABB is the fastest robot-based solution in the market, for loading and unloading of presses, without the need for press modification. It can be retro-fitted to existing press lines, setting it apart from other systems which require additional space between the upright and bolster. The TRX can fit different crossbar types and lengths.

User-friendly programming interface
The TRX runs on the well-established StampWare platform. The proprietary software package from ABB is designed to facilitate interaction between operator and press cell. Available on the robot FlexPendant for maximum simplicity, flexibility, and cost effectiveness, StampWare includes a graphical programming wizard that helps operators easily program the robots without having to master the programming language.

Main applications
- Press automation



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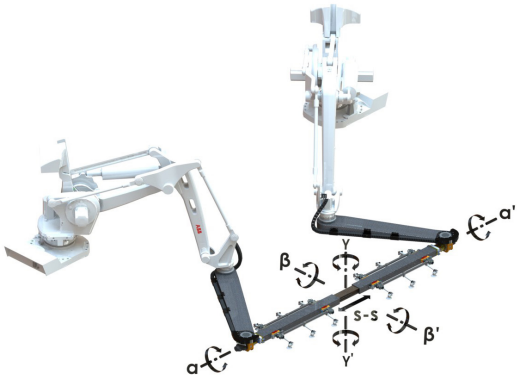

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01 TRX axis with single part crossbar.
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02 TRX axis with double part crossbar.

10 actuators to manage the required movements with maximum power efficiency
TRX is a single controller system, with 10 axes distributed across two 4 axis robots plus two additional axes to enable crossbar tilting.

The use of two robots is the optimum way to distribute the total power and to minimize inertia. The optimal dynamic behavior of carbon fiber components contributes also to reduce the inertia.

The first axis reorientation (α-α') is done by additional actuators for the crossbar. The second (β-β') and the third (γ-γ') are obtained by the different positioning of the two robot wrists, not requiring additional actuators. In addition, the system allows dynamic reconfiguration of part distance when moving double parts (side-shifting), also without any additional actuator.

Production change
The system is enabled for Automatic Tool Change (ATC). The ATC can be performed in both the Interpress floor area and in the bolster with the crossbar embarked together with the die.

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Specification and technical information

IRB 760 Twin XB	
Load (kg)	150 (including part, crossbar and tooling)
Reach (m)	3.10 + 1.75
Reorientation axes	α-α': ± 20º / + 90º in bolster ATC position β-β': ± 5º γ-γ': ± 20º
Side shifting (mm)	Enabled. Related to crossbar stroke (min. ±150)

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ROB0240EN Rev.C September 2018