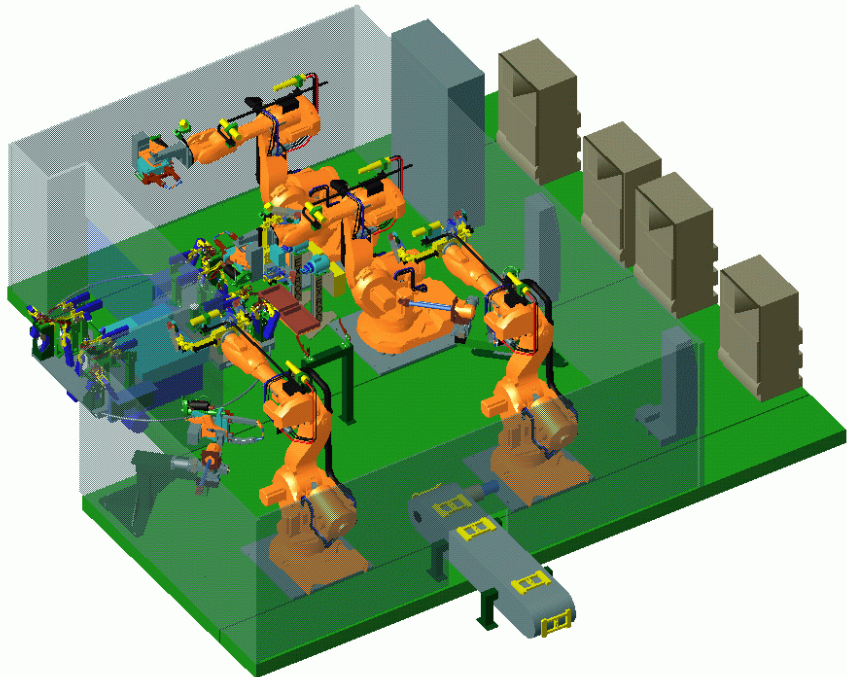


MAIN APPLICATION

Spot Welding for Body-in-White



A complete range of standardized cells

FlexiCell is a range of modular spot welding cells dedicated to the car body sub-assemblies and the preparation of body components.

A cell is composed of an electrical cabinet including API, a supply panel, two fixed tables for parts fixture, one spot welding dressed robot, a safety fence and the man/machine interface.

All these equipment are installed on a metallic platform integrating all cables to allow this cell to be transportable after tests without being dismantled.

Composed with modular equipment, the production cells FlexiCell can be used independently or combined together to form an assembly line, mini-assembly zones or a complete workshop.

Advantages

• Capacity investment

As it is made of modular equipment, more than 60% of your FlexiCell investment can be re-used for another part production.

The solution can also be used for batches production due to the quick tooling change fixture (less than 5 min)

• High level of reliability

All equipment used to build a FlexiCell has been 100% tested in our workshop.

Using the complete capacity of our robots in spot welding and material handling, the solutions only include reliable and non expensive peripheral equipments.

• Time reduction

The pre-studied cells decrease the time dedicated to assembly line design and mechanical & automation studies. Working with a modular concept, the basic and specific equipment of the project can be realized in the same time to reduce the manufacturing delay.

The on-site installation and start of production are completed done in some days, thanks to the metallic platform on which all equipment are fixed.

DESCRIPTION OF BASIC FlexiCell Sub 4R2C2F

- ❖ 1 platform with fluid supply
- ❖ 1 electrical cabinet with API
- ❖ 2 supply panels
- ❖ 4 robots IRB 6600
- ❖ 1 Man/machine interface with operator panel
- ❖ 4 robot controllers
- ❖ 2 spot welding guns fixed on robot wrists
- ❖ 2 spot welding guns fixed on the platform
- ❖ 2 grippers for the finishing robots
- ❖ 1 placing table
- ❖ 4 tip dressers
- ❖ 2 geometrical tools
- ❖ 1 turn table
- ❖ 1 conveyor for parts extraction (not included in the cell)
- ❖ safety device for operation in front of the turn table
- ❖ safety fences

TECHNICAL DATA FlexiCell Sub 4R2C2F

Dimension of tooling : Diameter < 1400 mm

Production capacity: 4000 spots/h

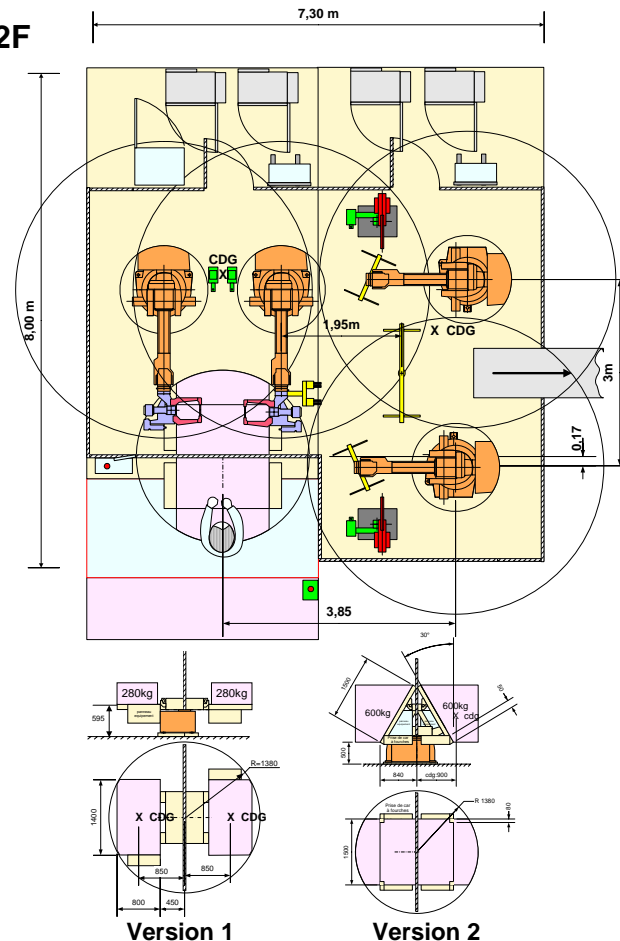
Weight: 28 tons

TYPES OF TOOLING POSITIONING

For the two versions, ABB proposes a quick tooling change

Version 1: Horizontal tooling

Version 2: Tooling with 30% inclination

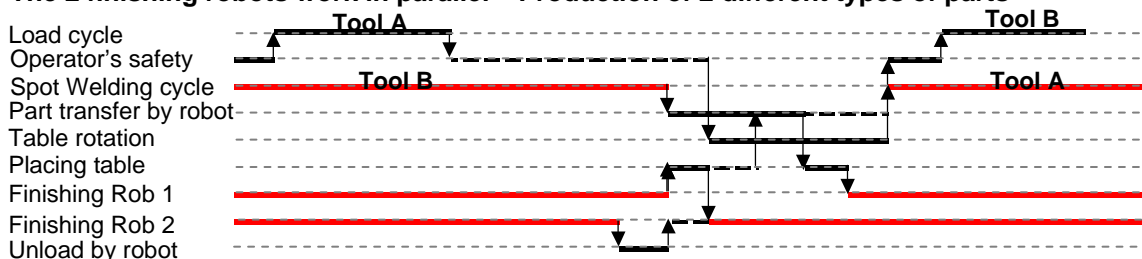


PRODUCTION CYCLE DESCRIPTION

The operator unloads and loads on one tooling while the robots weld on the second tooling and vice versa, at the end of the cycle. After operator's validation the turntable makes a 180° rotation for a new cycle. The fourth robot is equipped with a gripper to take the part from the turntable and presents it to the fixed gun to finalize the welding operation. At the end, the robot puts the part on the conveyor to take it out of the cell. The operator's safety is ensured by a laser radar or through other safety devices.

Two different cycles:

The 2 finishing robots work in parallel – Production of 2 different types of parts



The 2 finishing robots work in serial – Production of 1 type of parts

