Press Release

ABB delivers car body framing solution for today’s flexible needs

New GateFramer robotic car body framing system can frame multiple car models on the same line while maintaining short cycle times, incredible accuracy, unsurpassed reliability and ease of operation.

June 03, 2013

- **Flexibility**: accommodates fully random production with no effect on cycle time; freedom to follow market demand
- **Multiple body variants**: can handle up to 6 different car models on the same line
- **Precision**: unique gate docking feature results in incredible repeatability of +/- 0.1 mm
- **Expandability**: Modular design allows new car models to be added over time with no effect on existing production
- **Ease of commissioning**: all motion controlled through IRC5, removing complexity from operator and programmer
- **Reliable**: replace traditional framing machines with standardized design using proven components and technology

Over the past decade the auto industry has changed at a blistering pace. Where once it was common to build one car on one line, manufacturers are now moving to a flexible production concept where multiple cars can be produced on the same line. The new GateFramer robotic car body framing system builds on ABB’s nearly 20 years of framing experience by providing the industry with the flexible, accurate, expandable and fast solution that today’s car manufacturers demand—resulting in less investment over the lifetime of the system.

The GateFramer works on a simple concept: control all motion in the system through ABB’s robust and proven robot controller, the IRC5. Up to 6 different car body variants can be framed on the same line by swapping gates that hold each car model’s tooling. With the IRC5 in control, gates can be shuffled in the background to get ready for the next body while the robots weld the body currently in the machine. The result is a consistent gate exchange time of only 18 seconds for a completely random sequence of model production—meaning production planners are given unparalleled freedom to adjust mixed-model sequencing to meet demand.

The GateFramer’s unique design has up to 4 integrated welding robots just behind each gate for easy access to the body side, and up to 6 shelf mounted robots on an overhead platform, allowing a total of up to 14 robots to be accommodated into each station. Up to 77 geometry welds can be completed inside the framer to ensure excellent geometry integrity of the vehicle.

“While other framing solutions exist, none of them are as robust or easy to program and operate as our new GateFramer,” says Alan Stapelberg, ABB Robotics Body in White Product Manager. “The beauty of our system lies in its simplicity. By building on the proven nature of our welding robots coupled with complete system control by the IRC5, there is no other more flexible and reliable solution on the market.”

A unique gate docking feature docks the gates into fixed pillars at the framing position. This ensures that gates are positioned in high repeatable manner and do not depend on the accuracy of the slides used to move the gate. This precise solution results in an incredible +/- 0.1 mm repeatability.

The modularity of the GateFramer allows for the system to be expanded as needed. From a base layout of a single car model, investment in the system can gradually increase over time—which means that capital outlay can be scaled to meet demand and adding new car models is as easy as adding new gates.

“Our robots are inherently flexible and precise,” says Stapelberg. “In combination with our unique features such as gate docking, IRC5 motion control and expandable modularity, the GateFramer is ready to adapt to the modern car manufacturer’s needs, whatever the future may hold.”
Press Release

All ABB Robotics' products are fully supported by the ABB Robotics' global sales and service organization in 53 countries and over 100 locations—including comprehensive documentation, maintenance information and spare parts.

For further information visit www.abb.com/automotive or contact alan.stapelberg@cn.abb.com

GateFramer product page:
http://www.abb.com/industries/db0003db001875/e3500a48578d44d1c1257a54002e0ecd.aspx