Panel & Web welding

Flexible production, high quality and accuracy

Welding solutions

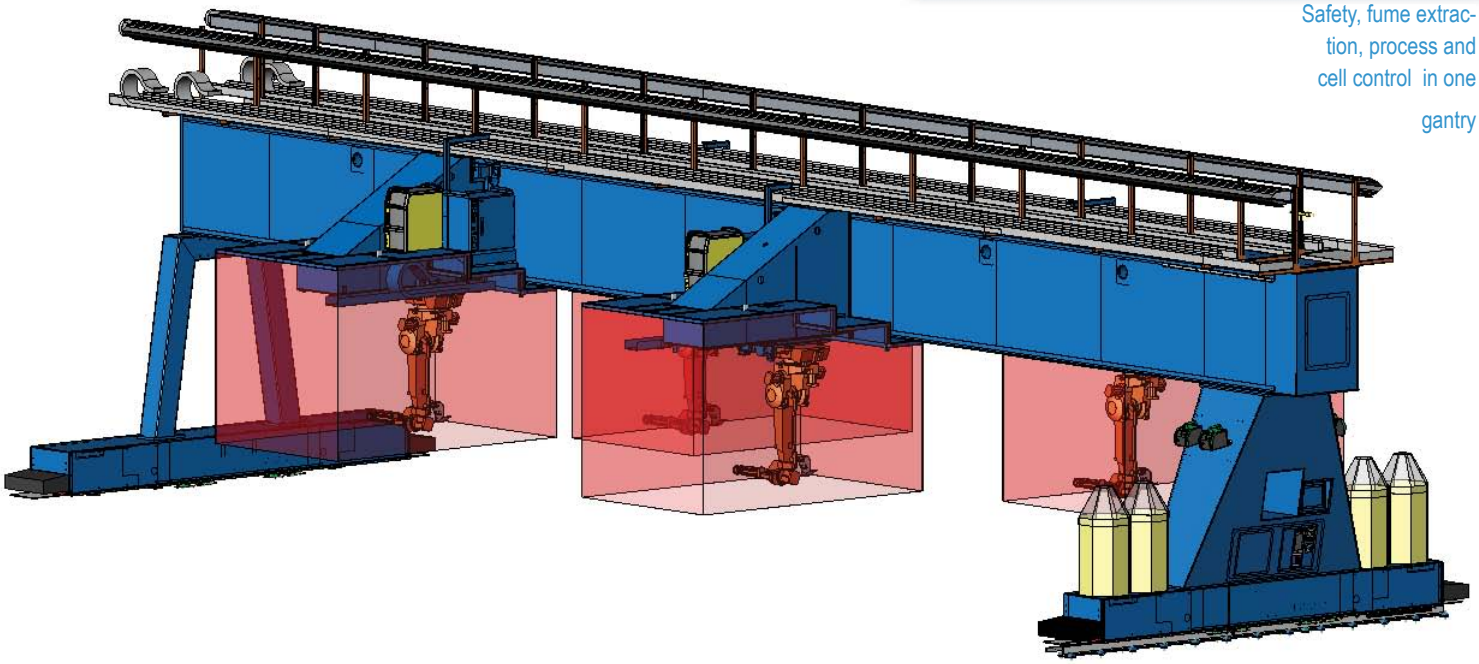
Modern shipbuilding involves all kinds of advanced technologies of which some are very suitable for automation. Kranendonk has supplied robotized, CNC- and PLC-controlled, one off, production systems for the shipbuilding industry since 1989. The Kranendonk Panel and Web Welding Gantries are developed to perform fully automatic welding of sub-assemblies in the shipbuilding industry. The sub-assemblies can be large buildup panels or the smaller web-panels.

Fully automatic stiffener welding

The system

The robotized welding gantries are developed for the welding of stiffeners, longitudinals, transversals or girders to panels and webs. The actual welding is done by industrial robots suspended from a traveling gantry. Especially on panels were accessibility become difficult the welding gantries have an advantage over the conventional methods: the welder. The Panel Welding Gantry can be equipped with one, two or even four industrial robots; this depends on the required welding capacity. Special customized solutions can be supplied depending on capacity and panel dimensions.

Safety, fume extraction, process and cell control in one gantry



Panel & Web Welding Gantry

KRANENDONK

Operation

Operation of robot welding gantries is automatic, and controlled by externally supplied data. The welding gantry can be controlled from an operator panel, so that the operator has a view of the robot at work. During normal production, the robot system is controlled from a station at the shop floor. The products are placed on the workfloor in the welding area. The approximate location of the webs or panels are entered into the system. With this information the robots are able to find the product and the weld seams. Then the welding gantry will automatically perform unmanned production. This means the operator can completely focus on the production quality and flow.

Easy to use graphical online welding cell control

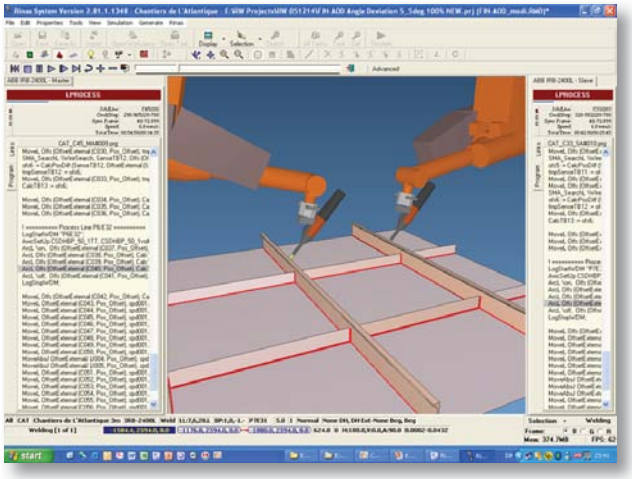
Easy programming based upon ARAC Macro technology

ARAC software

The welding gantry is supplied with Kranendonk ARAC software. The advanced ARAC software combines easy panel and web welding programming of the robots with simple graphical online cell and process control. No manual programming is required, since all production data is obtained directly from a CAD system database. Based upon ARAC Macro technology, the production data can even be entered in the workpreperation office.

RinasWeld software

The RinasWeld software is a system for automatic and unmanned weld analysis and off-line programming. All steps from importing a CAD model to the generation of complete collision-free robot programs are done using the RinasWeld off-line system. This makes RinasWeld capable of handling fast changing designs of structures, without need of making new datafiles. The production preparation takes place without interfering with ongoing production, as the whole programming process is done at the office, often several days or weeks in advance. One hour of RinasWeld operator time creates approximately 15 hours of robot welding programs.



Unmanned offline robot program generation

Main features

- Equipped with one, two or even four robots
- Transversal, longitudinal and vertical welds
- Automatic weld seam location and tracking
- Simultanious welding of double fillet welds
- Possibilities for CAD/CAM data integration
- Welding process monitoring and logging
- Automatic welding of panels
- Extreme reliability
- Easy operation

Kranendonk Production Systems B.V.
P.O. Box 6147
4000 HC Tiel
The Netherlands
T +31 344 623944
E info@kranendonk.com

www.kranendonk.com