Plate cutting and beveling

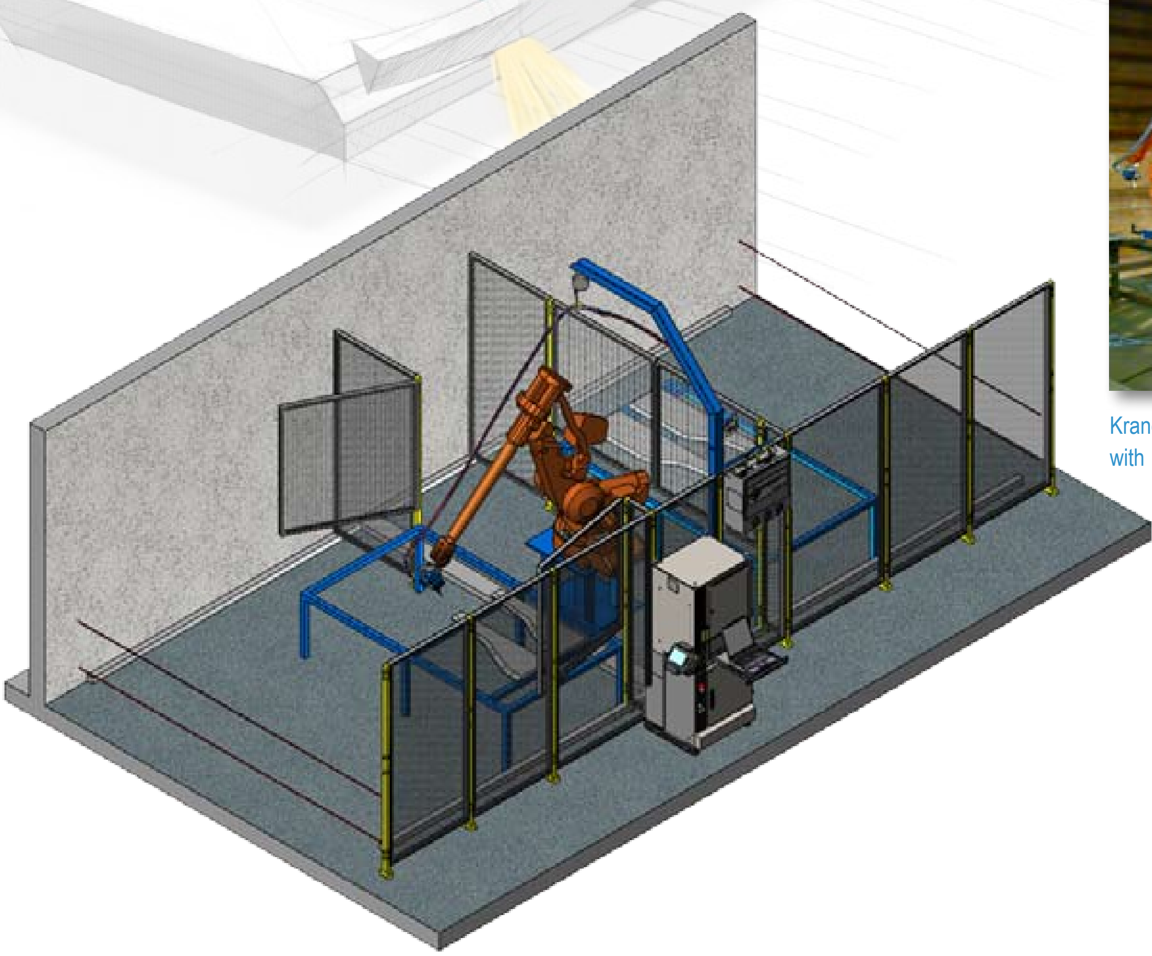
Flexible production, higher quality and throughput

Plate Beveling System

Over the years we have supplied many cutting solutions and with this experience we developed a Plate Cutting Cell suitable for cutting and beveling thick plates. The base of this Plate Cutting Cell is an adaptive sensor technique which compensates product tolerances like material shape, thickness and metal deformation due to heat input. The sensor is attached to an extended industrial robot mounted on a pedestal. Special customized solutions can be supplied depending on capacity and plate dimensions. This Plate Cutting Cell is a must for every company active in the field of Heavy Contruction, who is seeking for opportunities to improve their quality and reduce scrap.

High accuracy due to latest sensor technology

Kranendonk combines high quality with production flexibility by using special developed software



Heavy construction

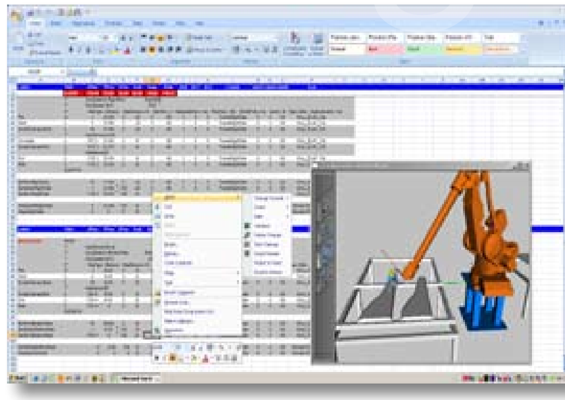
Plate Beveling System

ARAC offline programming and online control software

The Plate Cutting Cell is supplied with Kranendonk ARAC software. The advanced ARAC software features contour programming like NC-codes in such way that the contour is programmed in stead of the robot. ARAC is able to:

- Display the geometrical information by use of simulation in Excel.
- Interactively add the necessary processing information (CAM data) such as: which contours to process, processing speeds, process parameters, tool angles (e.g. torch angle) to create bevels.
- Convert the data into such a form, that the ARAC compiler can generate a robot program from these data.

Integration with various CAD-systems is optionally. ARAC also supports the general used ESSI-format.



Contour programming using a customized an open Excel interface

Adaptive plate cutting of bevels up to 60°

Process

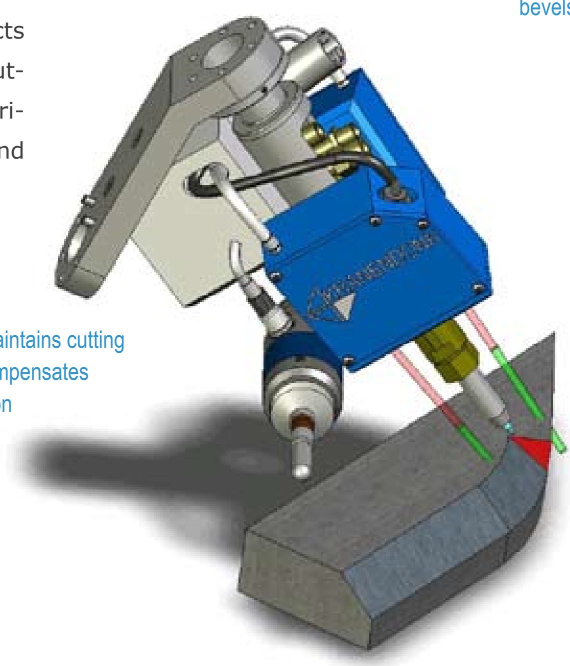
The Plate Cutting Cell is a dedicated plate cutting system which automatically can cut all plate thickness using OFC cutting equipment. The special dual laser height control sensor system, in combination with the robot controller, gives precision, stability and more accuracy to the robotic cutting application.

Accuracy

The distance between the cutting torch and the work piece must be very precise to get a correct bevel. Due to the heat input by the cutting process the work piece can deform. The Kranendonk dual laser height control system measures the height deformation and corrects the robot path so that the cutting torch will stay at the optimal cutting height. The laser system is designed to automatically cut various angles for plate beveling. The software compensates sparks and shining with mathematical filters.

Main features

- Small batch production
- Adaptive beveling up to 60 degrees
- Automatically compensates metal deformation
- Calibrated absolute accuracy
- Easy operation due to simple graphical cell control
- No fixture necessary
- Minimal floor space requirement
- Latest supervised oxy fuel cutting equipment



Automatically maintains cutting volumes and compensates metal deformation

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