

Integrated Systems, Inc.

System Profile

- Heavy Welding Cells



Integrated Systems, Inc. designed and built four ten-axis heavy welding systems for Deere-Hitachi. A 6-axis ABB IRB 2400L robot is mounted onto a mini-boom swing foot attached to a track, significantly increasing the robot's range of motion and the part is mounted to a rotating platter on a head and tailstock positioner.

This configuration provides 10 axes of coordinated motion. The 4000# parts are up to 6' x 6' in size and require large multi-pass welds. ABB's SmarTac Touch Sensing, WeldGuide Through the Arc Seam Tracking and Calculated Adaptive Fill are utilized in order to compensate for part fit-up tolerances ranging from 4mm to 10mm.

ABB Products used:

- IRB 2400L
- SmarTac
- WeldGuide with Heavy Welding Package
- Calculated Adaptive Fill
- BullsEye

Integrated Content:

- Two axis positioner
- Two axis track
- Customized PLC / Touchscreen PC controls

Customer Benefits

- Weld Cycle Time improvement
- Ability to manage gap tolerances through Touch Sensing and Seam Tracking
- Multi-pass welding via play back function of Calculated Adaptive Fill provides consistent fill height
- Usage of BullsEye maintains correct tool center point reducing program touch ups