A complete range of fully integrated, standardized welding cells

FlexArc robotic welding cells are complete robot systems available in several flexible and versatile, standard modular packages. The cells are delivered ready to weld.

The 500C cell features:
- One IRB 1410 or IRB 1600 robots equipped with the IRC 5 controller
- 180° index positioner 500C
- Perimeter guarding which complies with ANSI/RIA 15.06/1999
- Man/Machine (HMI) Interface
- Welding power supply
- Robotic welding torch (air cooled or water cooled)
- Robotic torch cleaner/dresser
- Metal mounting base (transportable with fork lift pockets)
- Operator present sensing device
- Cables are completely integrated into the base of the cell
- Cell door interlock device

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

IRC 5 Robot Controller and FlexPendant™

The IRC 5 is ABB’s fifth generation robot controller and it has set new standards with its modular concept and with its teach pendant unit. The modularity of the IRC 5 is a major step forward in robot controls with a logical split of functions into control and axis drive cabinets. Each module is housed in its own cabinet with an identical footprint so they may be stacked up to 3 high on the mounting base for minimal floor usage. The IRC 5 has the ability to control multiple robots with the potential to reduce costs, improve quality, increase productivity and expand robot applications.

The FlexPendant is world class with its intuitive windows layout and color touch-screen operation.

Flexibility, Reusability and High Productivity

If your new production parts are modified, added or specifications change, fixtures can be changed or modified on one station or both. The robot can either weld new or different parts and maintain maximum flexibility of the cell.

Each of ABB’s FlexArc Cells is available in a virtual computer format as identical replicas of the real cell in RobotStudio software and can be programmed offline on a personal computer.

FlexArc cells are standard, pre-engineered solutions designed to permit quick, efficient set-up so you are running production in minutes instead of days.

FlexArc cells have produced millions of parts since their introduction and are industry accepted and proven solutions.

From simple, modularized cells with one or two positioners to complete systems, ABB has a standard package to fit every need or ABB will customize cells or systems to meet your manufacturing requirements.
FlexArc™ 500C Cell

Technical Data

<table>
<thead>
<tr>
<th>Specifications</th>
<th>500C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handling capacity Per Side (Station)</td>
<td>500 Kg/1102 lbs</td>
</tr>
<tr>
<td>Max Inertia</td>
<td>880 Kgm2</td>
</tr>
<tr>
<td>Max Bending torque</td>
<td>5000 Nm</td>
</tr>
<tr>
<td>Min interchange time</td>
<td>3.3 seconds</td>
</tr>
<tr>
<td>Max interchange time</td>
<td>4 seconds</td>
</tr>
<tr>
<td>Repeatability (r=500)</td>
<td>0.1 mm (.004&quot;)</td>
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<tr>
<td>Max load diff</td>
<td>350 kg/</td>
</tr>
<tr>
<td>Max tool length (From center)</td>
<td>1250 mm</td>
</tr>
<tr>
<td>Optional Equipment</td>
<td>BullsEye™, SmarTac™, Fume Hood (including lighting), Thru-Arc Seam Tracking, RobotStudio™ Offline Programming Software, Virtual FlexArc™ Software, Wire Cutter</td>
</tr>
</tbody>
</table>

500C Indexes 180 Degrees

500C Cell Layout Top view

Typical production cycle Description: Operator unloads and loads one fixture while the robot welds on the second fixture. When both the operator and robots have completed their operations, the positioner indexes and the cycle starts again.