ROBOTICS

IRB 1100
The most compact and fast robot ever

Further expanding ABB’s small robot portfolio, IRB 1100 provides 35% increased productivity and up to 10% space savings.

Class-leading performance for high-quality manufacturing
Aimed at increasing manufacturing productivity, IRB 1100 provides up to 35% faster cycle times and best-in-class repeatability for high quality manufacturing.

IRB 1100 consistently outperforms similar robots in terms of payload and position repeatability (RP) even when under space constraints. Indeed, IRB 1100 offers the highest payload for a robot of its class.

Compact and small footprint design ensures flexible installation
Compared to the previous generation, the IRB 1100 robot design was optimized with a 10% smaller footprint and over 20% weight reduction for space-efficient installation in diverse environments, such as electronics manufacturing factories.

The small footprint allows multiple robots to be deployed simultaneously in order to collaboratively perform automation operations, enabling more flexible handling for heavy-load operations with complex tools/end effectors.

Powered by ABB’s new OmniCore™ controller, IRB 1100 is equipped with advanced motion control capabilities, making it ideal for supporting rapid assembly, pick-and-place, and material handling applications.

ABB’s IRB 1100 cleanroom option is coming later. Moreover, the robot is available in two variants - one with a 4 kg payload and 475 mm reach, and one with a 4 kg payload and 580 mm reach.

Key benefits
- Offers 35% faster cycle times for increased productivity
- 10% smaller footprint and over 20% weight reduction for easy installation
- The highest payload for a robot of its class
- Equipped with up to 16 I/O for more sophisticated/complex applications

Main applications
- Assembly & Testing
- Loading & Unloading
- Screw driving
- Rubber insertion
### Specification

<table>
<thead>
<tr>
<th>Robot version</th>
<th>Reach (m)</th>
<th>Payload (kg)</th>
<th>Armload (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRB 1100-4/0.475</td>
<td>0.475</td>
<td>4</td>
<td>0.5</td>
</tr>
<tr>
<td>IRB 1100-4/0.58</td>
<td>0.58</td>
<td>4</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Number of axes: 6
Protection: IP40
Mounting: Any angle
Controller: OmniCore
Integrated signal and power supply: 8 signals on wrist
Integrated air supply: 4 air on wrist (Max. 6 Bar)
Integrated ethernet: 1 Gbit/s port

### Performance (according to ISO 9283)

1 kg picking cycle
25 x 300 x 25 mm
0.42 s

### Performance (according to ISO 9283)

<table>
<thead>
<tr>
<th>IRB 1100-4/0.475</th>
<th>IRB 1100-4/0.58</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pose repeatability, RP</td>
<td>0.01 mm</td>
</tr>
<tr>
<td>Pose stabilization time, PST (s) within 0.1 mm of the position</td>
<td>0.08</td>
</tr>
<tr>
<td>Path repeatability, RT</td>
<td>0.05 mm</td>
</tr>
</tbody>
</table>

### Technical information

Physical
Dimensions robot type: 160 x 172 mm
Weight IRB 1100-4/0.475: 21 kg
Weight IRB 1100-4/0.58: 21 kg

Data and dimensions may be changed without notice.

### Movement

<table>
<thead>
<tr>
<th>Axis movement</th>
<th>Working range</th>
<th>Axis max. speed IRB 1100-4/0.475</th>
<th>Axis max. speed IRB 1100-4/0.58</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis 1 rotation</td>
<td>+230° to -230°</td>
<td>460°/s</td>
<td>460°/s</td>
</tr>
<tr>
<td>Axis 2 arm</td>
<td>+113° to -115°</td>
<td>380°/s</td>
<td>360°/s</td>
</tr>
<tr>
<td>Axis 3 arm</td>
<td>+55° to -205°</td>
<td>280°/s</td>
<td>280°/s</td>
</tr>
<tr>
<td>Axis 4 wrist</td>
<td>+230° to -230°</td>
<td>560°/s</td>
<td>560°/s</td>
</tr>
<tr>
<td>Axis 5 bend</td>
<td>+120° to -125°</td>
<td>420°/s</td>
<td>420°/s</td>
</tr>
<tr>
<td>Axis 6 turn</td>
<td>+400° to -400°</td>
<td>750°/s</td>
<td>750°/s</td>
</tr>
</tbody>
</table>