**IRB 1200**

A compact, flexible, fast and functional small industrial robot

Have you ever wanted to make your machines 15% smaller and 10% faster? ABB’s IRB 1200 allows you to do exactly that. Specifically, it addresses the needs of material handling and machine tending applications for flexibility, ease of use, compactness and short cycle times while still maintaining large working envelopes.

As a family of robots, the IRB 1200 comes in two variants which can handle a wide range of applications. Both IRB 1200 variants can be mounted at any angle and come with IP 40 protection as standard. Both variants are available with Food Grade Lubrication, SafeMove2, Foundry Plus 2 and Clean Room option. The 700 mm reach variant can carry a payload of up to 7 kg, while the longer reach 900 mm variant can carry up to 5 kg of payload.

**Food Grade Lubrication and Clean Room option**

This Food Grade Lubrication (NSF H1) option includes Clean Room ISO class 3 and IP67 protection rating which ensure uncompromising safety and hygiene for food and beverage applications. The Clean Room ISO class 3 design eliminates the potential for contamination of the food handling area. This option provides smooth surfaces and makes it easy to keep clean and maintain in environments such as CNC machine tending and material handling in the food industry. This results in features that allow for 15% smaller cells with 10% shorter cycle times.

**SafeMove2**

The IRB 1200 SafeMove2 becomes the smallest ABB robot to feature the advanced safety-certified monitoring and control software solution which allows robots and operators to work more closely together by restricting robot motion to precisely what is needed for a specific application.

**Compact**

The IRB 1200 has no offset in axis two, which results in a longer stroke than other small robots and it, meaning it can be placed very close to the work piece and still be functional. This allows for a much more compact installation when the robot is mounted on the ceiling inside a small cell, such as in electronics machining or polishing applications. The robots’ large useable working area contained in a small package leads to shorter cycles and more compact machines.

**Foundry Plus 2**

The IRB 1200 is also available with Foundry Plus 2, ABB’s optional protection system which allows it to withstand harsh environments for example heavy duty metal casting and automotive applications.

**Features and benefits**

- 15% smaller cells that have 10% shorter cycle times
- Available with Food Grade Lubrication
- Optionally with SafeMove2 functionality
- Available with Foundry Plus 2 protection for harsh environments
- IP40 protection as standard; Clean Room, IP67 and Foundry Plus 2 protection are also available options
- 4 air ducts, 10 customer signals and Ethernet routed internally from wrist flange to foot
- Mountable at any angle
- Large useable working area in a compact footprint
## 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 1200-7/0.7</td>
<td>0.7</td>
<td>7</td>
<td>0.3</td>
</tr>
<tr>
<td>IRB 1200-5/0.9</td>
<td>0.9</td>
<td>5</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Number of axes: 6

Protection: Standard robot (IP40) or IP67, Foundry Plus 2 based on IP67, Food Grade Lubricant and Clean Room (ISO class 3) based on IP67

Mounting: Any angle

Controller: IRC5 Compact/IRC5 Single Cabinet

Integrated signal and power supply: 10 signals on wrist

Integrated air supply: 4 air on wrist (5 Bar)

Integrated ethernet: One 100/10 Base-TX ethernet port

### Performance (according to ISO 9283)

<table>
<thead>
<tr>
<th>IRB 1200-7/0.7</th>
<th>IRB 1200-5/0.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kg picking cycle</td>
<td></td>
</tr>
<tr>
<td>25 x 300 x 25 mm</td>
<td>0.42 s</td>
</tr>
<tr>
<td>Max. TCP Acceleration</td>
<td>35 m/s²/s</td>
</tr>
<tr>
<td>Acceleration time 0-1 m/s</td>
<td>0.06 s</td>
</tr>
<tr>
<td>Position repeatability</td>
<td>0.02 mm</td>
</tr>
</tbody>
</table>

### Technical Information

#### Electrical Connections

- Supply voltage: 200-600 V, 50-60 Hz
- Rated power transformer rating: 4.5 kVA
- Power consumption: 0.39 kW

#### Physical

- Robot base: 210 x 210 mm
- Robot height:
  - IRB 1200-7/0.7: 869 mm
  - IRB 1200-5/0.9: 967 mm
- Robot weight:
  - IRB 1200-7/0.7: 52 kg
  - IRB 1200-5/0.9: 54 kg

#### Environment

- Ambient temperature for robot manipulator:
  - During operation: +5°C (41°F) to +45°C (113°F)
  - With food grade lubrication during operation: +5°C (41°F) to +35°C (95°F)
  - Complete robot during transportation and storage: -25°C (-13°F) to +55°C (131°F)
  - During short periods (max. 24 hours): up to +70°C (158°F)
- Relative humidity: Max. 95%
- Noise level: < 70 dB

### Movement

<table>
<thead>
<tr>
<th>Axis movement</th>
<th>Working range</th>
<th>Axis max. speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis 1 rotation</td>
<td>+170° to -170°</td>
<td>288°/s</td>
</tr>
<tr>
<td>Axis 2 arm</td>
<td>+135° to -100°**</td>
<td>240°/s</td>
</tr>
<tr>
<td>Axis 3 arm</td>
<td>+70° to -200°</td>
<td>300°/s</td>
</tr>
<tr>
<td>Axis 4 wrist</td>
<td>+270° to -270°</td>
<td>400°/s</td>
</tr>
<tr>
<td>Axis 5 bend</td>
<td>+130° to -130°</td>
<td>405°/s</td>
</tr>
<tr>
<td>Axis 6 turn</td>
<td>Default: +400° to -400° Max. rev: ±242</td>
<td>600°/s</td>
</tr>
</tbody>
</table>

*Axis 2 for IRB 1200-5/0.9 is +130° to -100°

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Data and dimensions may be changed without notice.

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