IRB 390 FlexPacker™
Opening new possibilities for ultra-fast high payload picking and packing
The IRB 390 FlexPacker™ is a ground-breaking innovation in Delta Robot technology. Available in 4 and 5 axis configurations, it offers up to 35 percent faster performance and a 45 percent larger working volume for enhanced productivity. Its 5-axis capability increases application flexibility for secondary packaging, making it ideal for Retail Ready Packaging (RRP) where products are placed vertically. With its increased speed, higher payload and added flexibility, the IRB 390 is ideal for customized packaging, vertical packing and high-speed, high-variation sorting, as well as on demand order picking in logistics and e-commerce fulfillment centers.

How does the IRB 390 answer packaging challenges?

• Fast 5-axis motion provides ability to vertically orient goods, enabling a single manipulator to be used with no need for additional equipment
• Enables low batch volume, high mix picking and packing at increased speeds
• Increased working range and payload enable multiple product picks, resulting in increased throughput per robot
Key benefits

- **Flexibility**
  - 15 kg with 4 axis
  - 10 kg with 5 axis

- **15 kg Payload**
  - High flexibility in materials handling, packaging and sorting applications

- **Productivity**
  - 35% faster and 45% larger working volume*

- **Safety & Hygiene**
  - NSF H1 Food Grade Lubricants and FDA compliant material

*Compared to IRB 360-8/1130
New possibilities for picking and packing

Class leading payload capacity
The IRB 390’s high 15kg payload and large working range enables multiple product picks, expanding the range of products that can be handled and offering an increased throughput per robot.

Flexible handling
The variant with a 5th axis offers greater dexterity and flexibility than equivalent 4-axis robots, including the ability to vertically orient boxes and parcels, while achieving higher speeds than 6-axis units.

Fast performance
With its class leading cycle time performance, the IRB 390 can pick products from high-speed systems running at up to 100 m/min and place them into cases, trays, crates or other packaging formats.

The potential to boost productivity
FlexPacker is also designed to work with PickMaster® Twin, ABB’s market leading robotic software for vision-guided random flow picking and packing applications. PickMaster® Twin features digital twin technology, allowing the building of simulated packing stations to optimize the picking process. The software increases productivity by dramatically shortening commissioning times from days to hours and changeover times from hours to minutes, while maximizing overall line efficiency. The software also features a powerful color vision system that can support up to 10 cameras for accurate position guidance and feature inspection.
Key industries and applications

**Food & Beverage**
With the ability to handle multipacks and vertically orient products such as juice cartons, the IRB 390 is ideal for food and beverage picking and packing applications. Objects can be selected from lines running at up to 100 meters per minute and place them into cases, trays, crates or other packaging mediums. The use of food grade lubricants and FDA compliant materials enable the IRB 390 to be used where there is proximity to open products.

**Logistics**
Able to quickly sort, pick and place parcels, boxes and cartons of varying sizes, shapes and weights up to 15kg, the IRB 390 enables a wide variety of goods to be picked, packed and made ready for delivery in the shortest possible time. Its speed and flexibility offers a highly effective solution to meet the challenges of omnichannel retailing where goods need to be delivered in a variety of ways to a variety of customer types.

**Pharmaceuticals**
Built to meet FDA standards for use in hygienic environments, the IRB 390 can be used to sort, pick and pack a range of pharmaceutical products. With the ability to handle multiple products, it can pack complete layers into narrow cartons increasing quality and throughput and improving productivity.

**Consumer packaged goods**
The IRB 390’s combination of speed, flexibility and high payload capability makes it ideal for handling a full range of goods, including clothing, cosmetics and personal care, cleaning products and household products. With its enhanced throughput, the IRB 390 can help to reduce the time needed to pick, pack and despatch orders to customers, from retailers through to individuals.
IRB 390 FlexPacker™

Setting new standards in speed and flexibility

Version with fifth axis provides ability to vertically arrange and pack products.

Larger working range enables multiple product picks resulting in increased throughput per robot.

15 kg payload offers high flexibility in materials handling, packaging and sorting applications.

35 percent faster packing rate.

### Specification

<table>
<thead>
<tr>
<th>Robot version</th>
<th>Diameter (mm)</th>
<th>Payload (kg)</th>
<th>No. Axes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRB 390 - 15/1300</td>
<td>1300</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>IRB 390 - 10/1300</td>
<td>1300</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Supplementary load</td>
<td>on upper arm</td>
<td>0.5kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>on lower arm</td>
<td>0.15kg</td>
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</tbody>
</table>

**Protection**

IP67

**Mounting**

Inverted

**Controllers**

IRC5

### Performance (According to ISO 9283)

<table>
<thead>
<tr>
<th>Cycle times (s)</th>
<th>IRB 390 - 15/1300</th>
<th>IRB 390 - 10/1300</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/305/25mm cycle</td>
<td>1 kg</td>
<td>10 kg</td>
</tr>
<tr>
<td>IRB 390 - 15/1300</td>
<td>0.42</td>
<td>0.52</td>
</tr>
<tr>
<td>IRB 390 - 10/1300</td>
<td>0.49</td>
<td>0.59</td>
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<tr>
<td>90/400/90 mm cycle</td>
<td>1 kg</td>
<td>10 kg</td>
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<tr>
<td>IRB 390 - 15/1300</td>
<td>0.59</td>
<td>0.74</td>
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<td>IRB 390 - 10/1300</td>
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<td>0.83</td>
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<tr>
<td>200/700/200 mm cycle</td>
<td>1 kg</td>
<td>10 kg</td>
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<tr>
<td>IRB 390 - 15/1300</td>
<td>0.89</td>
<td>1.09</td>
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<tr>
<td>IRB 390 - 10/1300</td>
<td>1.04</td>
<td>1.23</td>
</tr>
</tbody>
</table>

*Incl. 0.35s dwell time at pick and place

### Hygienic attributes

- Food grade lubrication
- Gearbox oil
- Grease behind exposed seals
- FDA compliant material
- All exposed surfaces