

ROBOTICS

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



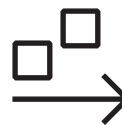
Flexibility
15 kg with 4 axis
10 kg with 5 axis



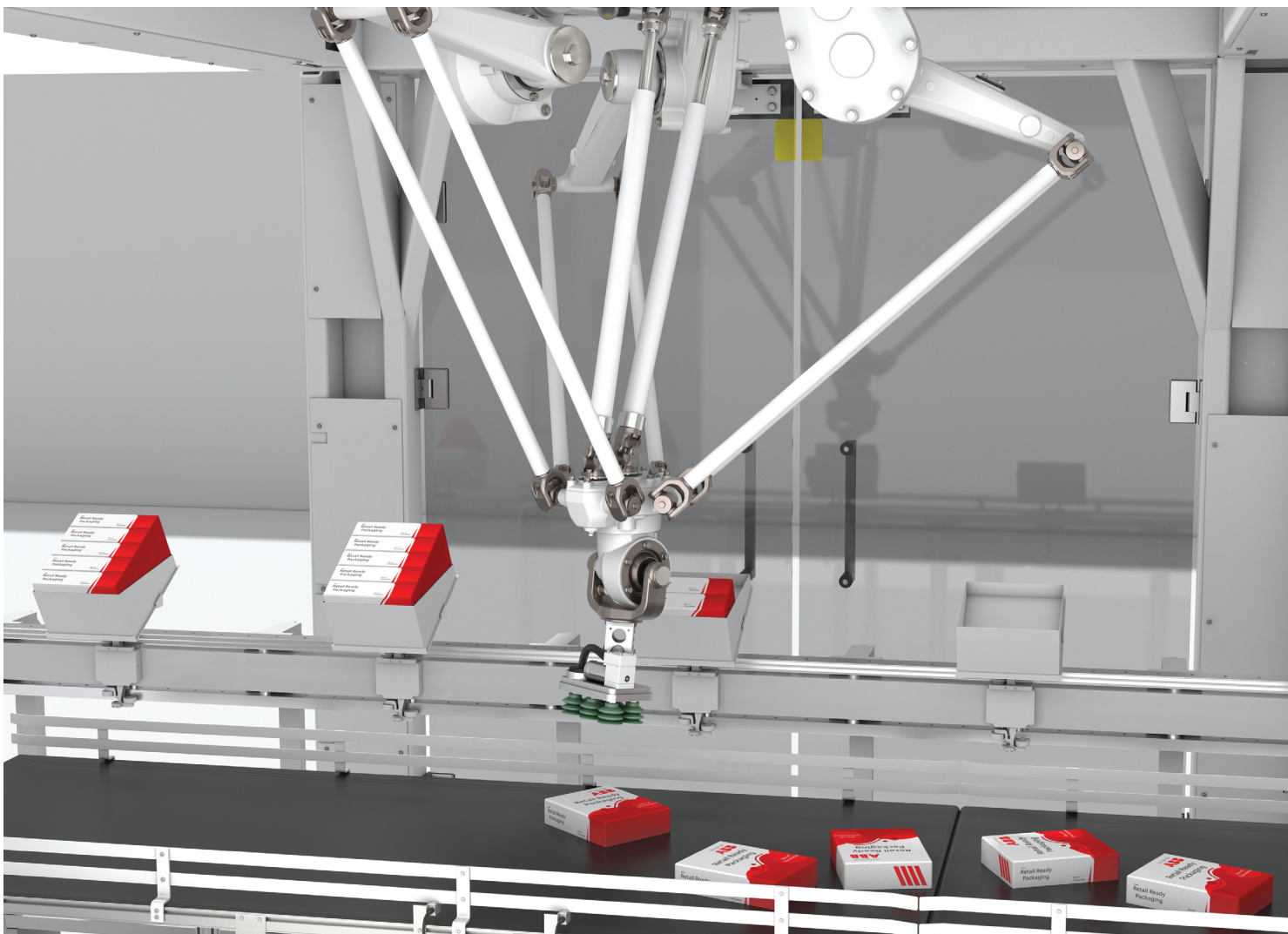
15 kg Payload
High flexibility in materials handling,
packaging and sorting applications



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

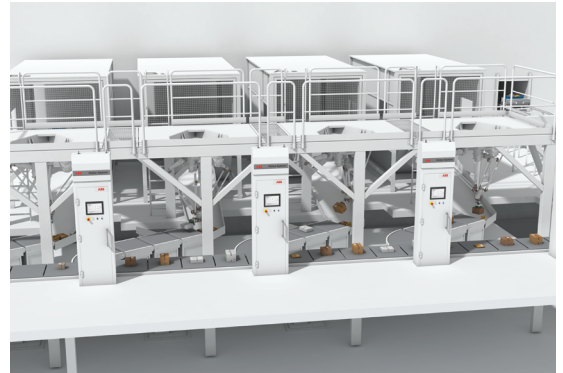
Food & Beverage

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.



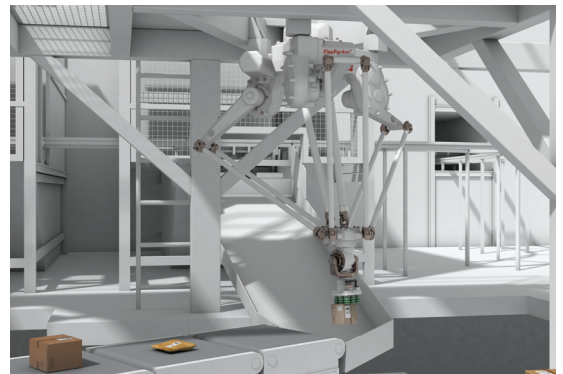
Logistics

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.



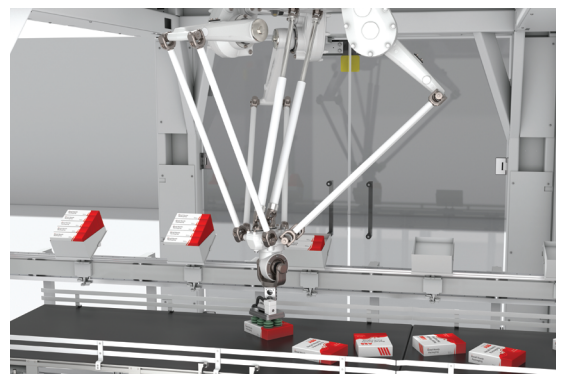
Pharmaceuticals

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

Robot version	Diameter (mm)	Payload (kg)	No. Axes
IRB 390 - 15/1300	1300	15	4
IRB 390 - 10/1300	1300	10	5
Supplementary load	on upper arm on lower arm	0.5kg 0.15kg	
Protection	IP67		
Mounting	Inverted		
Controllers	IRC5		

Performance (According to ISO 9283)

	IRB 390 - 15/1300	IRB 390 - 10/1300
Pose repeatability, RP (mm)	0.01	0.08
Pose stabilization time, PSt (s) within 0.1 mm of the position	0.22	1.09

Cycle times (s)

	1 kg	10 kg	15 kg
25/305/25mm cycle			
IRB 390 - 15/1300	0.42	0.52	0.57
IRB 390 - 10/1300	0.49	0.59	-
90/400/90 mm cycle			
IRB 390 - 15/1300	0.59	0.74	0.81
IRB 390 - 10/1300	0.69	0.83	-
200/700/200 mm cycle			
IRB 390 - 15/1300	0.89	1.09	1.19
IRB 390 - 10/1300	1.04	1.23	-

*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



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