



PRODUCT PRESENTATION

IRB 390 FlexPacker™

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IRB 390 FlexPacker™ Product Presentation

- Introduction
- Technical Specifications
- Product Positioning
- Target Applications
- Takeaways





Introduction

IRB 390 FlexPacker™

IRB 390 FlexPacker™

Enhancing picking and packing portfolio

IRB 390 FlexPacker

What & Market/Customer value

IRB 390 is a 4 or 5 axis delta robot that offers up to 35% faster and 45% larger working volume for enhanced productivity. IRB390 aimed at customers in Food & Beverage, logistics, pharmaceutical and consumer-packaged goods industries who need secondary packaging and higher payload applications.

- Two variants (payload/reach): 4 axis with 15 kg. 5 axis with 10 kg
- Type: brand new robot



Customer value proposition



Productivity

35% faster and 45% larger working volume for enhanced productivity*



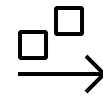
Flexibility

5-axis capability increases flexibility for secondary packaging



Quality

Best-in-class path accuracy for high quality manufacturing



Simplicity

Simplify production with FlexPacker and PickMaster Twin

IRB 390 FlexPacker™

Fastest high payload Packer on the market

10kg/5-axis/1300mm



15kg/4-axis/1300mm



IRC5

Higher speed and payload to increase productivity

Target markets:

F&B (CSSR)

Packaging (CSSR)

Logistics (CSSR)

GI

Target applications:

Shelf-Ready Packaging

Retail-Ready Packaging

High Payload Picking

Full Layer Packing

Hygienic sensitive Picking and Packing

High-speed picking with Payload 8kg+

Parcel handling (Singulation)

Enlarge the ABB Packer Portfolio with the high-speed delta IRB390



Technical Specification

Delta Robots – FlexPicker® and FlexPacker™

Portfolio - Overview



IRB 360-1/1130



IRB 360-3/1130



IRB 360-1/1600



IRB 360-6/1600



IRB 360-8/1130



IRB 390-15/1300



IRB 390-10/1300

IRB 390 FlexPacker™

IRB 390 15/1300



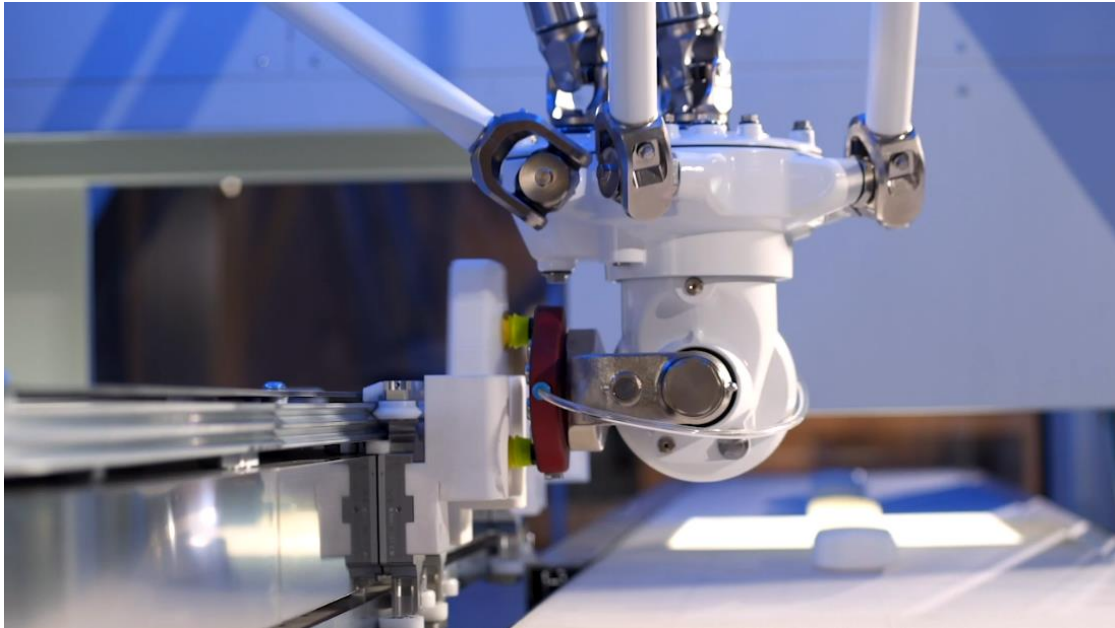
IRB 390 10/1300



IRB 390 FlexPacker™

Next Generation Delta Robots

IRB 390 – 5 axis



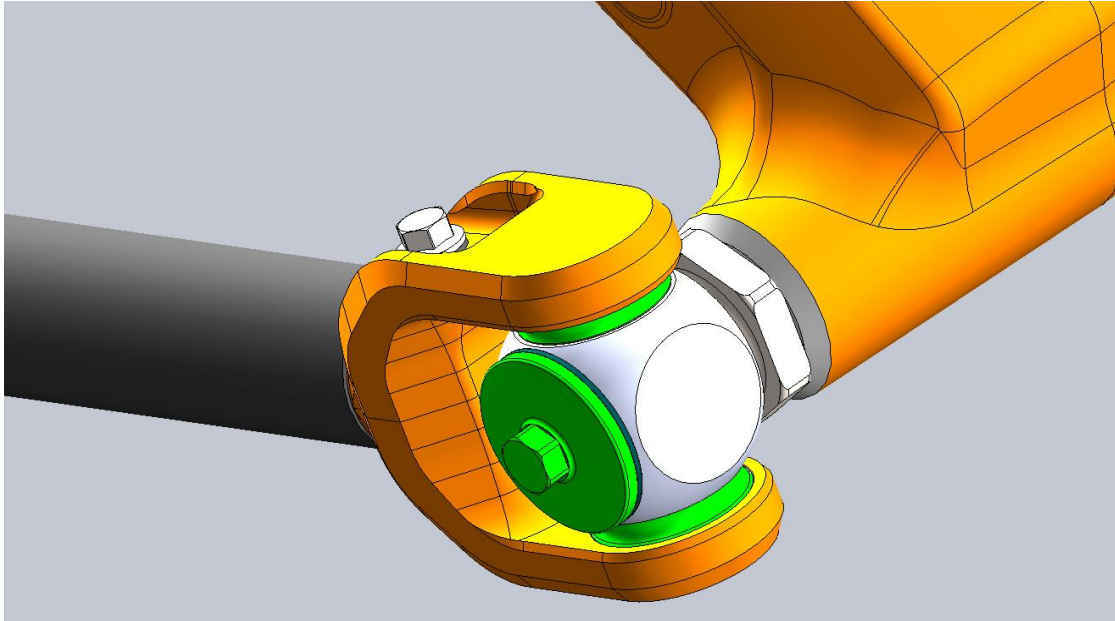
IRB 360 – 4 axis



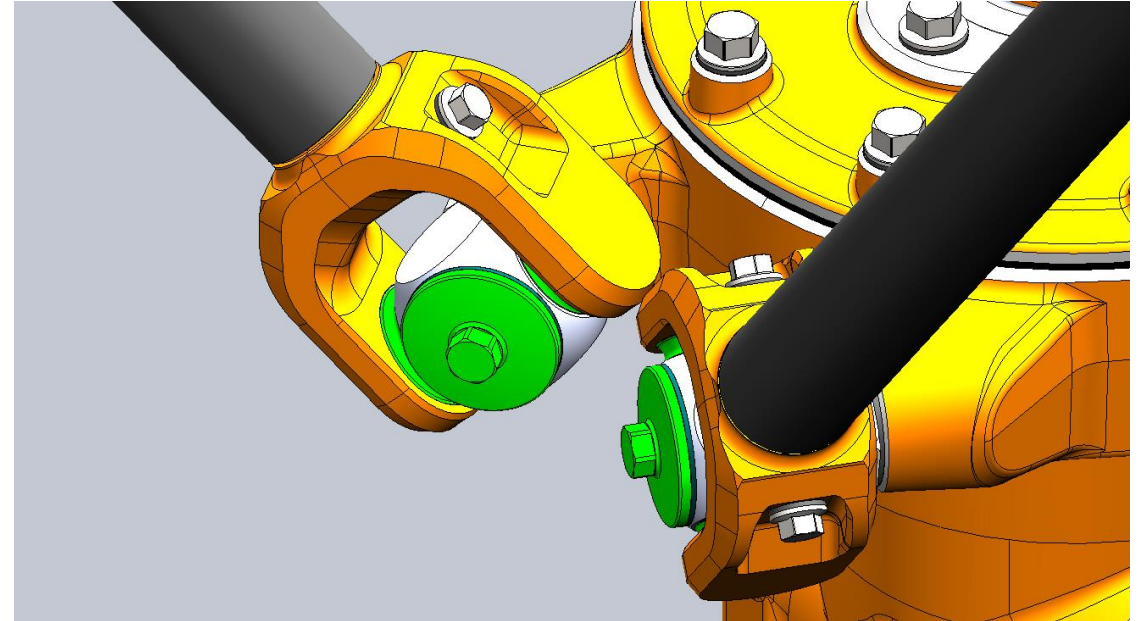
10,000 IRB 360's Now in Service

IRB 390 FlexPacker™

IRB 390 – Upper 2DoF Joint



IRB 390 – Lower 2DoF Joint

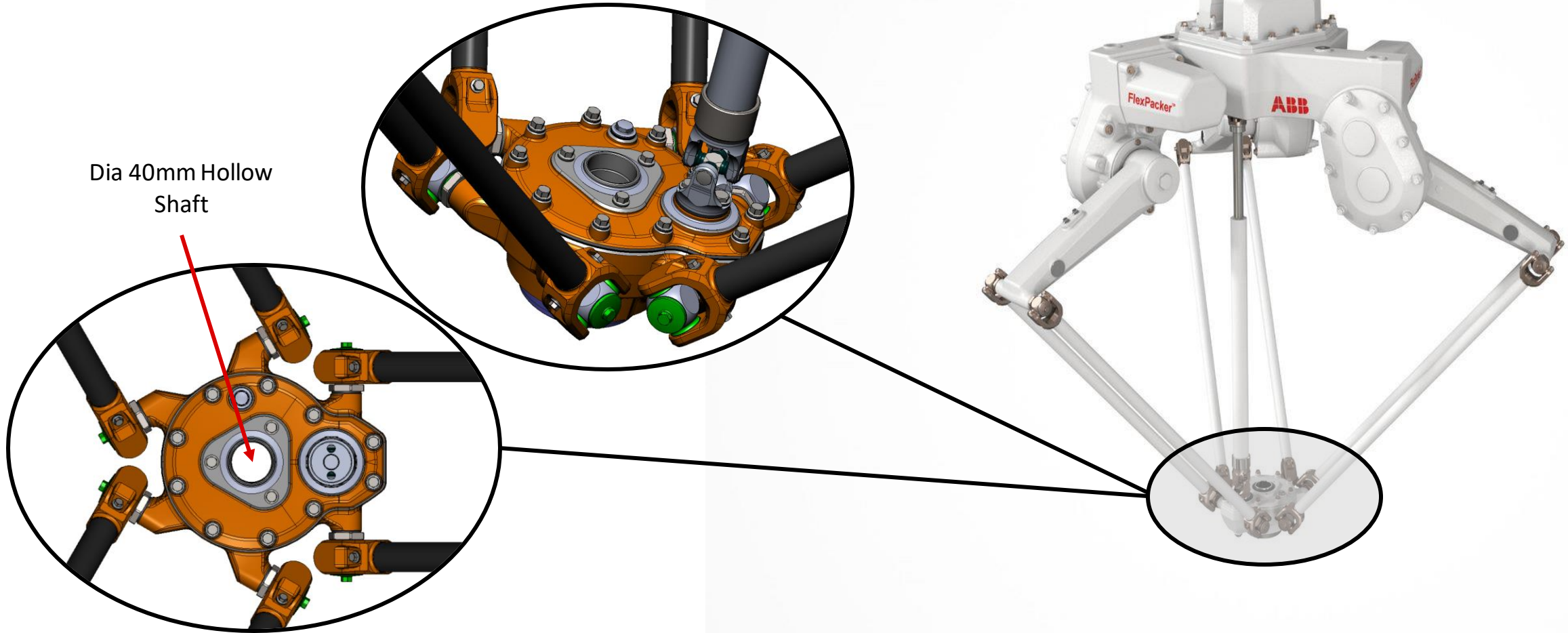


Fixed bearing joints with 2 Degrees of Freedom, Hygienic Seals

IRB 390 FlexPacker™

4 Axis, 15/1300

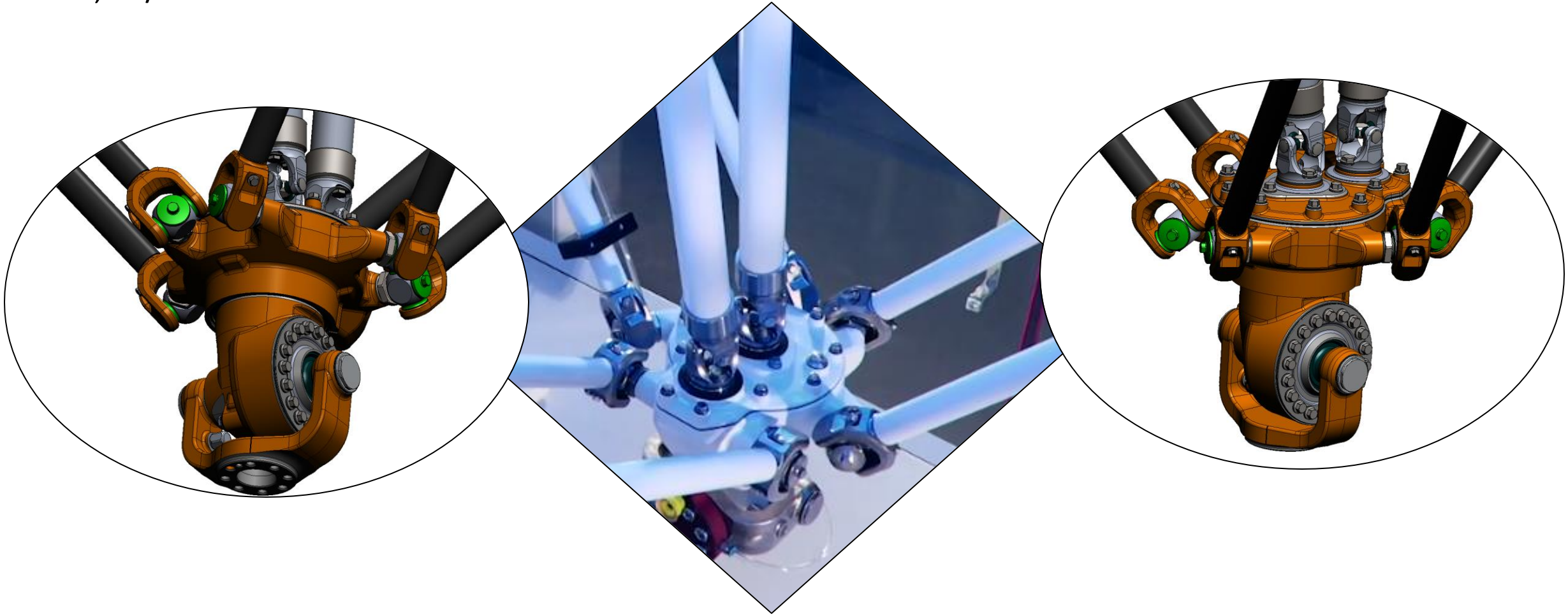
Dia 40mm Hollow
Shaft



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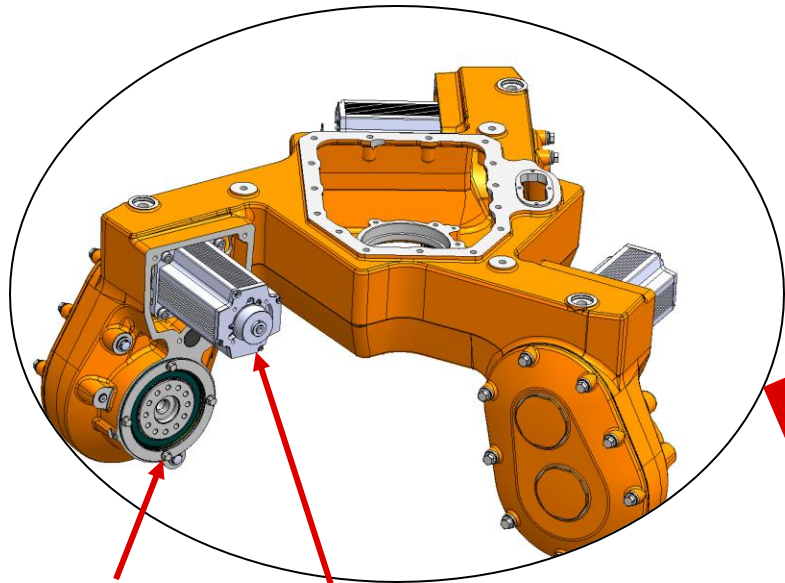
IRB 390 FlexPacker™

5 Axis, 10/1300



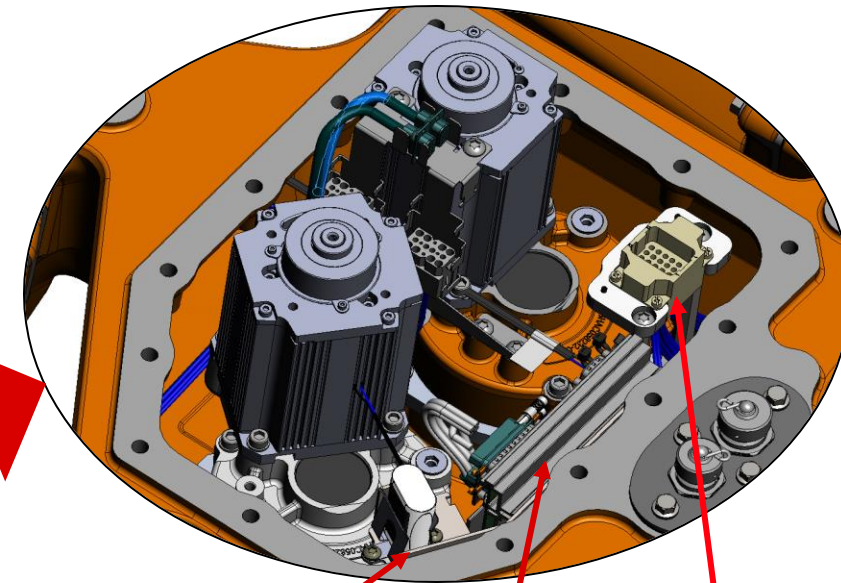
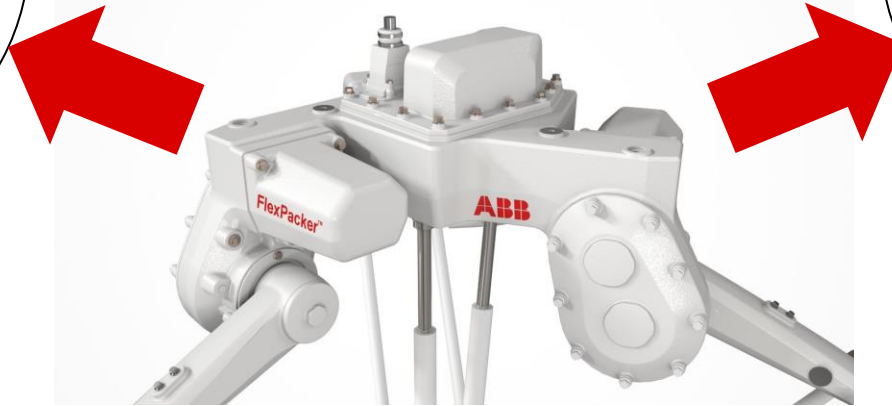
IRB 390 FlexPacker™

Drive Train and Connectors



Upper Arm
Interface

Motor



Battery

SMB

Cable
Connector

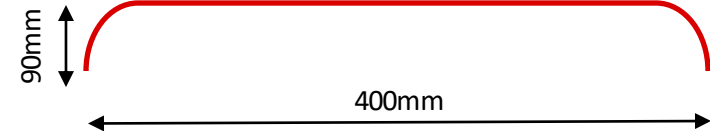
IRB 390 FlexPacker™

Feature: Payload and Speed – Short Picking Cycles



Cycle One: with 90deg rotation and return

Type	1 KG	3 KG	6 KG	8 KG	10 KG	15 KG
IRB360 1/1130	167					
IRB360 6/1600	140	125	100			
IRB360 8/1130	158	143		100		
IRB390 15/1300	143				115	105
IRB390 10/1300	122				102	

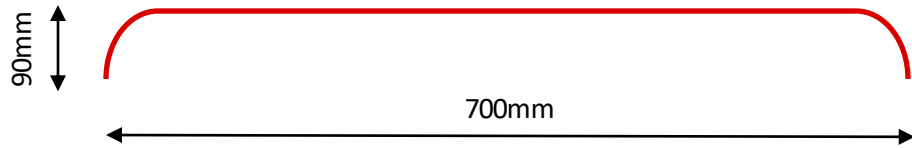


Cycle Two: with 90deg rotation and return

Type	1 KG	3 KG	6 KG	8 KG	10 KG	15 KG
IRB360 1/1130	136					
IRB360 6/1600	105	95	75			
IRB360 8/1130	109	92		65		
IRB390 15/1300	102				81	74
IRB390 10/1300	87				72	

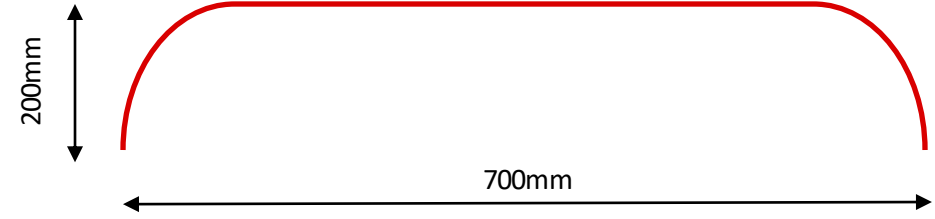
IRB 390 FlexPacker™

Feature: Payload and Speed – Packing Cycles Per Minute



Cycle Three: with 90deg rotation and return

Type	1 KG	8 KG	10 KG	15 KG
IRB360 1/1130	91			
IRB360 6/1600				
IRB360 8/1130	85	48		
IRB390 15/1300	81	69	66	61
IRB390 10/1300	70	61	59	



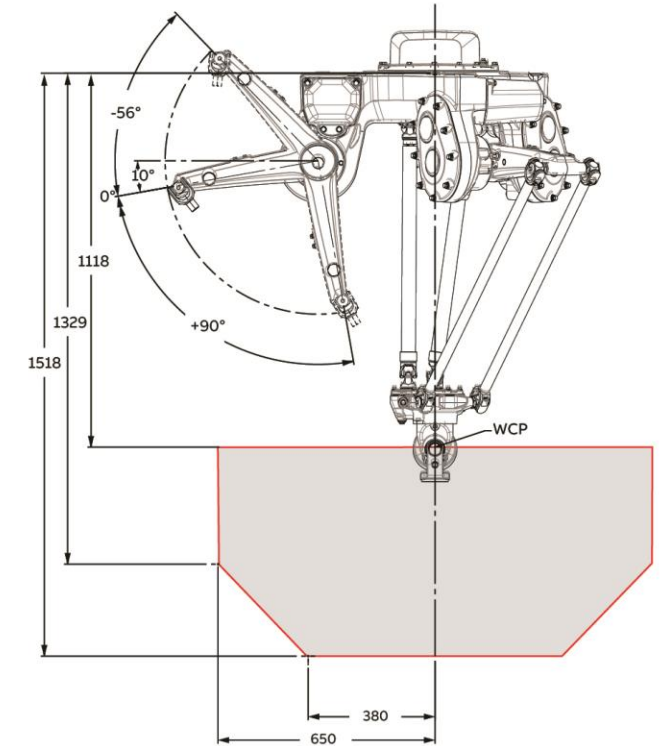
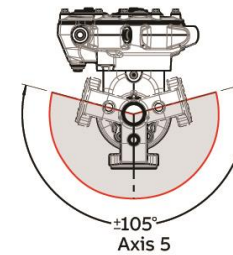
Cycle Four: with 90deg rotation and return

Type	1 KG	8 KG	10 KG	15 KG
IRB360 1/1130	77			
IRB360 6/1600				
IRB360 8/1130	73	39		
IRB390 15/1300	67	57	55	50
IRB390 10/1300	58	50	49	

IRB390-10/1300

Specification

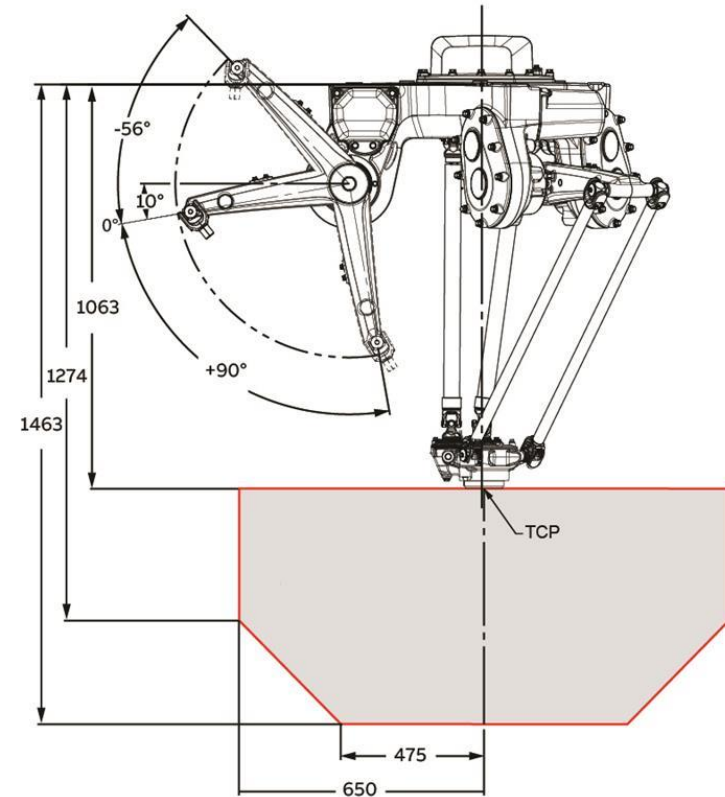
Payload	10kg
No of axis	5
Diameter	1300mm
Ingress Protection	IP 67
Controller	IRC5
Weight	148 kg
Food grade compliance	NSF H1 Food Grade Lubricants and FDA compliant material



IRB390-15/1300

Specification

Payload	15kg
No of axis	4
Diameter	1300mm
Ingress Protection	IP 67
Controller	IRC5
Weight	133 kg
Food grade compliance	NSF H1 Food Grade Lubricants and FDA compliant material



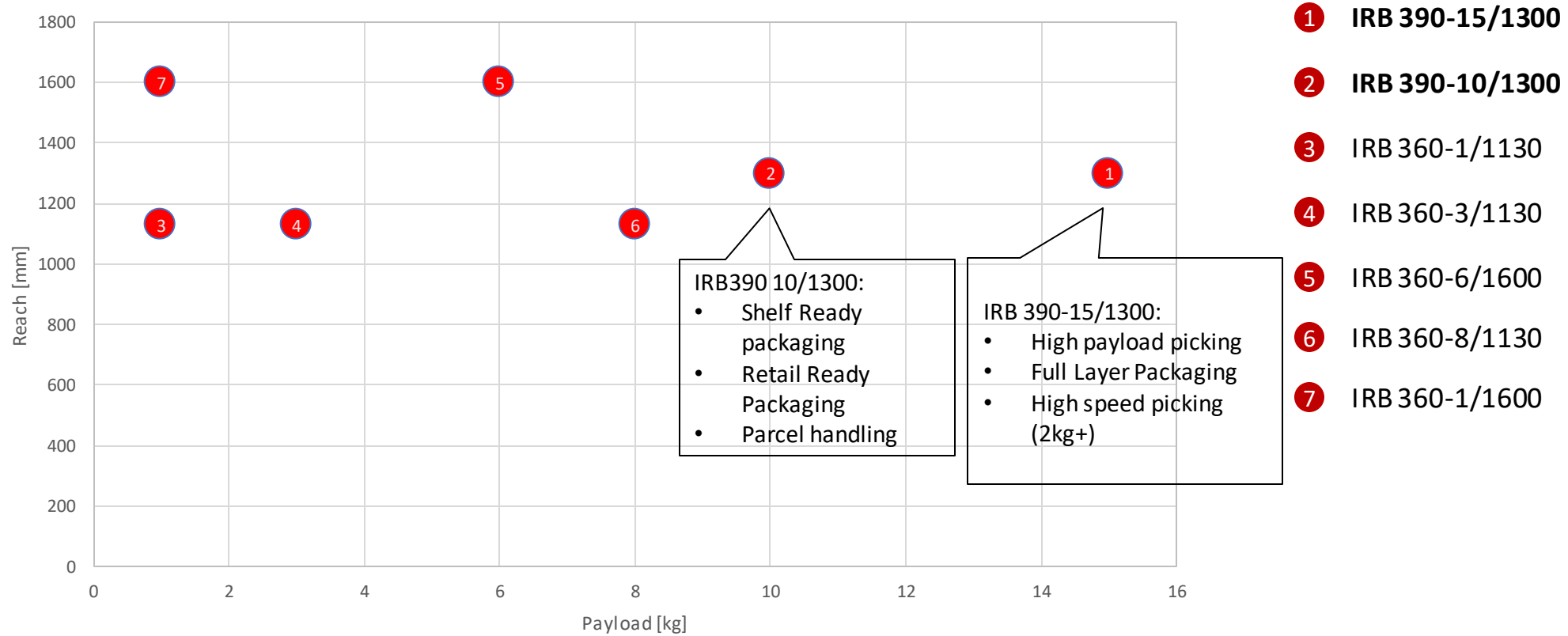
Product Positioning

IRB 390 FlexPacker™

Product strategy & positioning

Variant	Strategy	Positioning	Target Application
IRB 390 10kg/1300mm (5-axis)	Market entry and development	Premium - high speed and high payload packer -unique in its class	<ul style="list-style-type: none"><input type="checkbox"/> Shelf Ready Packaging<input type="checkbox"/> Retail Ready Packaging<input type="checkbox"/> High Payload Picking<input type="checkbox"/> Hygienic sensitive Picking and Packing<input type="checkbox"/> Full Layer Packaging<input type="checkbox"/> High-speed picking (2 kg+)<input type="checkbox"/> Parcel handling (Singulation)<input type="checkbox"/> More...
IRB 390 15kg/1300mm (4-axis)	Market entry and development	In line with the Delta product portfolio	

Application Mapping






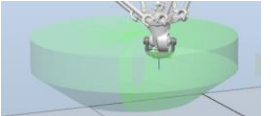
IRB 390 FlexPacker™

Key features, advantages and benefits

	Feature	Advantage	Benefit
Reach & Payload	1300mm 10, 15 kg	Exclusive in the class	
Speed (Cycle Time)	0.59 – 0.83s¹	Leading in the class	
Repeatability (RP)	0.01mm (4-axis) 0.08mm (5-axis)	Leading in the class	

IRB 390 FlexPacker™

Key features, advantages and benefits

	Feature	Advantage	Benefit
FDA compliance	Food Grade Lubrication ¹ FDA compliant material	Suitable for hygienic sensitive environments	
Flexibility	15 kg 4-axis 10 kg 5-axis	High torque in all axis (unique in its class)	 <ul style="list-style-type: none">• Up to 120NM on axis 4• Up to 110 NM on axis 5
Speed & Working range	High speed picking Large working range	Leading in the class	 35%  45%



Target Applications

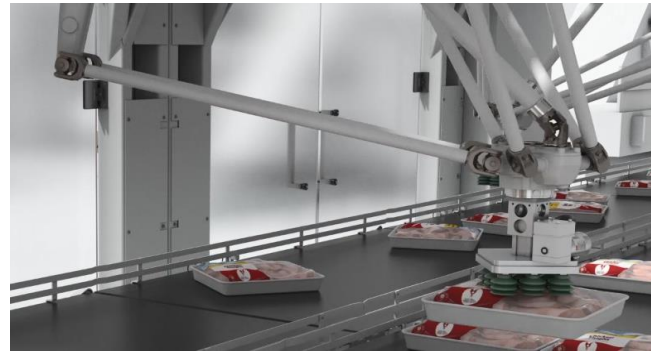
Target Applications

Shelf- and Retail Ready Packaging



- Enables the packaging of goods for Retail Ready Packaging (RRP) and Shelf Ready Packaging (SRP) by tilting of products in packaging.

High Payload Picking



- High Payload Picking (up to 15 kg)
- Enables heavy/complex mechanical grippers to handle multiple products

Full Layer Packing



- Packaging of full layers into boxes with tight fitting in 2ndary packaging
- Enables heavy/complex mechanical grippers to handle multiple products
- Supports Multiple picks, single place
- Large work envelope enables better reach into boxes

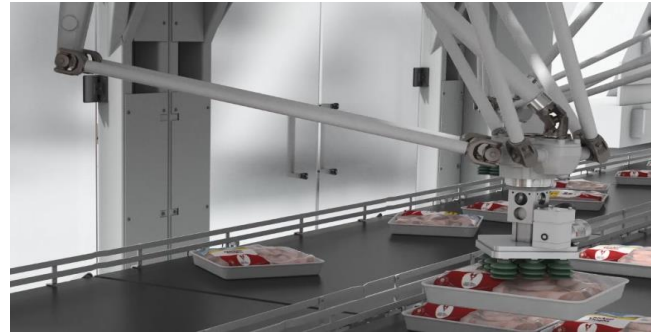
Target Applications

Hygienic Sensitive Picking & Packing



- Open food (dry food) handling capabilities due to FDA compliant material and Food grade lubrication

High-speed picking



- Picking of loads from high-speed conveyor belts
- Increased speed enables reduction of robots on high-speed belts also for payloads 2kg+ (eg. 35% faster 8kg payload handling than IRB 360-8/1130)

Parcel handling (Singulation)



- Singulation of random bulk parcels

— Takeaways

Takeaways: Offering along the entire production chain

Filling the gap between Picking and Palletizing with two new variants of a Delta Packer

Picking

Applications:

- Picking and placing



Hardware:

- 8 variants of IRB360s
- 3- or 4-axis variants
- Payload: 1kg up to 8 kg
- Stainless steel variant available

Packing

Applications:

- 2ndary Packaging
- Shelf Ready Packaging
- Retail Ready Packaging



Hardware:

- 2 variants of IRB390s
- 4- or 5-axis variants
- Payload: 10kg or 15 kg

Palletizing

Applications:

- Palletizing
- De-Palletizing
- Material Handling



Hardware:

- 3 Products (IRB460, 660 and 760)
- Payload 110kg: to 450 kg

Established ABB standard Software: PickMasterTwin, RobotStudio, Palletizing Power Pack

Takeaways: Unique features

High payload (10, 15 kg)

- Unique in its payload class for delta robots on the market
- Enabling higher payload picking and Packing

Variants:

- 10 kg/ 5-axis: IRB 390-10/1300
- 15 kg/ 4-axis: IRB 390-15/1300

5-axis variant available

- 1st 5-axis Delta robot from ABB
- Product tilting enables new application in the Retail & Shelf Ready Packaging

FDA compliance

- NSF H1 Food Grade Lubricants and FDA compliant material
- Suitable for use in hygienic sensitive environments

High speed

- 35% faster and offers 45% larger working volume*
- Picking from high-speed belts with up to 100m/min
- Suitable also for payloads <8kg depending on application

Full compliance with ABB standard Software suite

ABB Delta Robots

History

First Sale

IRB 340 – 1998

IRB 360

10,000 units in service

ABB Portfolio

2021 **IRB 390** Takes ABB Delta Robots to the next level.
IRB 365 to come



Call To Action – IRB 390 positioned for your success

ABB