

ROBOTICS

Robotic Depalletizer

ABB's ultimate solution for faster and simpler depalletizing



ABB's Robotic Depalletizer with machine vision enabled by proprietary ABB machine learning software combined with ABB robots. Configurations with 4- and 6-axis robots to solve a wide array of depalletizing tasks with varying box sizes, pallet patterns and heights.

About the solution

The solution includes pre-integrated software and vision technology allowing customers to solve depalletizing tasks in different layouts with high variation while requiring little engineering efforts.

The solution is integration ready and requires final layout, safety considerations, sensor periphery to allow collaborative use when required.

Versatility

Can pick any type of box different in size, weight, shape and color. Adapts towards changing pallet patterns and SKUs – achieving robust performance without manual intervention/re-integration.

Performance

Up to 2.8-meter pallet height; 750 cycles/hr peak; 30 kg max payload.

Digital Twin

Simulation of real life depalletizing cases and environments enabling virtual commissioning.

Customer Segments

Logistics, Consumer Packaged Goods, Retail, E-commerce, Healthcare.

Applications

- Depalletizing of mixed item, single item and rainbow pallets,
- Depalletizing into storage,
- Depalletizing for re-palletizing (mix items on new pallets),
- Depalletizing for order picking from pallet,
- Depalletizing for sorter infeed.

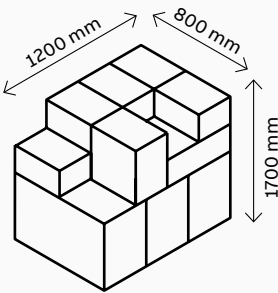
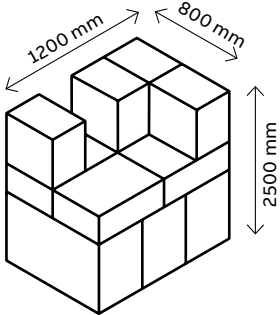
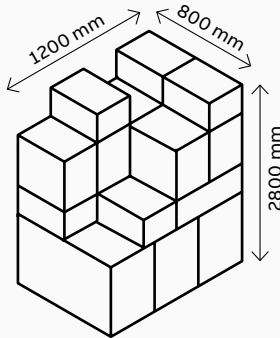



Configurations

3 robots covering all possible:

- Pallet types,
- Patterns,
- Single SKU,
- Rainbow and mixed,
- Offering required versatility,
- 4- and 6-axis.

Additional offering

Mobile robot ready - robotic depalletizing can be integrated with various pallet in-and outfeed methods including standard interfaces to facilitate pallet in-and outfeed with mobile robots, conveyors or manual equipment.

Type	4-axis robots (rainbow & single SKU pallets)				6-axis robots (mixed pallets)			
Configuration	IRB 460		IRB 660		IRB 4600			
								
								
Maximum pallet height								
EU: L × W 1200 × 800 mm								
ISO: L × W 1200 × 1000 mm	EU 1.7 m	ISO 1.7 m	EU 2.5 m	ISO 2.5 m	EU 2.8 m	ISO 2.8 m	EU 2.8 m	ISO 2.8 m
Maximum picking angle for tilted boxes (limiting factor)	5° (4-axis robot)		5° (4-axis robot)		45° (sensor angle detection <46°)			
Maximum box weight	+30 kg ¹		+30 kg ¹		+30 kg ²			
Performance	750 boxes/hour		750 boxes/hour		750 boxes/hour			
Used robots	IRB 460-110/2.40		IRB 660-180/3.15		IRB 4600-40/2.55			

¹scalable modular gripper with 5 kg payload per suction zone
²standard gripper with 6 suction zones with 5 kg payload each