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ROBOTIC TRUCK LOADING/UNLOADING

Rocky MMR



From Loose Cartons to Pallets Complete Automation Solution

RockyOne autonomously unloads or loads trucks, trailers, and containers, while RockyLight palletizes or depalletizes. Together, they automate inbound and outbound operations at the loading dock. This system handles heavy cartons with ease, operates reliably in high-temperature environments, and reduces the risk of worker injuries. It also helps address labor shortages, boosting warehouse efficiency.

30 kg

Payload (RockyOne)

80 min

40' STD container unloading

2.2 m

Max pallet height



RockyLight

RockyOne

Box-aligner
only needed for loading

Flexible accordion / telescopic belt conveyor

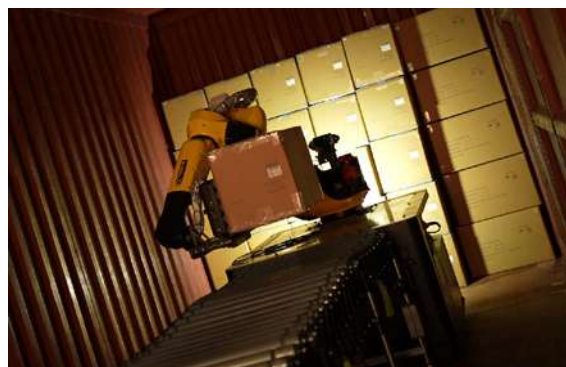
Easy Unloading As the Door Opens

Controlled via a wireless pad, RockyOne can climb slopes of up to 18% (10°) and start unloading the first carton wall, continuing until the entire cargo is cleared.



Large, Heavy, and Flat Cartons Handling

RockyOne's Multimodal Gripper can pick up cartons from the side and support the bottom, ensuring a stable grip without the risk of dropping. It can handle cartons placed horizontally or vertically, including flat ones like pizza boxes.



Precise Placement for Scanning

RockyOne places cartons in specific orientations to meet downstream scanning requirements. It can also pick multiple cartons at once and place them individually.



Efficient Loading of Multiple Cartons

With an optional box-aligner, RockyOne can simultaneously pick and load multiple cartons into the truck, significantly improving efficiency.

RockyOne

A high-capacity Mobile Manipulation Robot (MMR) designed for heavy payloads and rapid operations, excelling in loading and unloading tasks.

30 kg

Payload

1.4 × 1.06 m²

Footprint



RockyLight

A versatile MMR with a compact design and extensive working range, ideal for various case-handling applications in warehouses and distribution centers.

20 kg

Payload

1.12 × 0.8 m²

Footprint





**Marubeni
Logistics**

📍 Ibaraki · Japan

100 min

40' HC container unloading

12 – 20 kg

Carton weight



Case Video



📍 Rovigo · Italy

A Leading Egg Product Company

RockyOne helps Eurovo automate the loading process. It handles heavy cartons with ease and significantly reduces manual workload.

2 h

40' container loading

20 – 26 kg

Carton weight



Case Video

📍 Shanghai · China

A Global Leading Food Brand

RockyOne streamlines outbound workflows from pallets to trailers and operates continuously across two shifts.

1,100+

Cases per hour

90%

Fill rate



Case Video

Specifications



Specifications	RockyOne	RockyLight
Applicable Container Size	Interior H: 2,300 - 3,000 mm (7.71 – 9.84 ft) Interior W ≥ 2,200 mm (7.21 ft)	— No length restraint
Applicable Pallet Size	—	L ≤ 1,200 mm (3.94 ft) W ≤ 1,200 mm (3.94 ft) H ≤ 2,200 mm (7.21 ft)
Applicable Case Size	Side length: 100 - 800 mm (3.94 – 31.5 in)	
Payload	30 kg *1 (66.1 lbs)	20 kg (44 lbs)
Footprint	1,400 mm x 1,060 mm (4.59 ft x 3.48 ft)	1,120 mm x 800 mm (3.67 ft x 2.62 ft)
Weight	1,200 kg (2,646 lbs)	650 kg (1,433 lbs)
Vertical Stroke of Arm Base	—	900 mm (2.95 ft)
Movement	Omnidirectional	
Max Speed	0.9 m/s (2.95 ft/s)	2 m/s *2 (6.56 ft/s)
Max Slope	18% (10°)	10% (5.7°)
Max Step Height	20 mm (0.78 in)	
Max Gap	50 mm (1.97 in)	
Battery Type	48V LiFePO ₄ Battery, 80 Ah *3	
Full Charge Endurance	Moving: 8 h Standby: 24 h	Operating: 4 h Standby: 24 h
Full Charging Time	Standby: 3 h Plugged-in: automatic charging	
Power Supply	Standby: Three-phase 220 VAC, 15 A Plugged-in: Three-phase 220 VAC, 30 A *4	Standby/plugged-in: Single-phase 220 VAC, 10 A
Typical Power Consumption	3 kW	1 kW
Operation Temperature	-10 – 45°C (14 – 113° F)	
Protection Class	IP54	IP20
Safety	2006/42/EC, EN ISO 12100:2010, EN 60204-1:2018, EN ISO 3691-4:2023, and EN ISO 10218-2:2011	—

*1 Payload varies by carton length: < 500 mm: 30 kg, 500 – 600 mm: 25 kg, 600 mm: calculation required.
*2 RockyLight SE available for stationary operations.
*3 RockyOne SP available as a battery-free version.
*4 400/480-220 VAC transformer available upon request.

About XYZ Robotics

XYZ Robotics' mission is to accelerate the advent of autonomous robotic perception and manipulation. The company develops mobile manipulation robots (MMR). These MMRs pioneer automation in truck loading, unloading, and case picking.

Founded in 2018, XYZ Robotics serves industry-leading customers worldwide, with operational branches in the United States, Germany, Japan, South Korea, and China.

