PRIME robotics

RackBot

AS/RS High-Density Storage AMR

Integrated Warehouse Automation

Prime Robotics is a premier provider of end-to-end automation solutions tailored for distribution centers and warehouses.

Prime's suite of robot and execution software solutions transform fragmented workflows, empowering clients to unlock operational productivity and efficiency.

Committed to revolutionizing warehouse, supply chain, and factory operations, Prime strives to elevate businesses through best-in-class automation solutions and services.

In response to increasing consumer demands and evolving order profiles, distribution centers and warehouses need to accommodate a larger number of SKUs. Automated Storage and Retrieval Systems (AS/RS) offer a cost-effective solution using floor-to-ceiling steel racking and Autonomous Mobile Robots (AMRs) to optimize product density. By building vertically, these systems save space and provide advantages such as mixed-pallet picking and pallet sequencing, which are difficult to achieve with standard racking and forklifts.

Prime's RackBot is the leading AMR choice for AS/RS in high-density storage environments:

- Moved pallets with payloads up to 3,000 lbs.
- Saves 3X storage space
- Accommodates a wide range of products and SKUs
- Integrates with other automation solutions, including Prime's MobilePallet, enhancing workflow efficiency and overall throughput



Integration

Highly customizable and user-friendly, Prime's execution software provides an intelligent yet simple and scalable solution. Our robots and software seamlessly integrate with any Warehouse Management System (WMS), Enterprise Resource Planning (ERP), Programmable Logic Controller (PLC), or operations management software—making our solutions easy to use and adaptable to unique needs.

Safety

To guarantee a safe working environment, our AMRs are equipped with advanced safety and obstacle avoidance features, including LiDAR, bumpers, and emergency stop buttons. These features enable our robots to operate safely and efficiently, minimizing the risk of accidents and ensuring safety of human workers.

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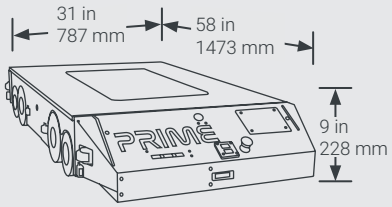

RackBot Specifications

Model	MobilePallet (MP-4400)
Dimensions (L x W x H)	58 x 31 x 9 in 1473 x 787 x 228 mm
Vehicle Weight	1,100 lbs 500 kg
Payload	3,000 lbs 1360 kg
Lift Height	3.9 in 100 mm
Lift Speed	5.0 seconds
Max Speed	3.4 mph 1.5 m/s
Navigation	QR Code
Obstacle Avoidance	3D Cameras + LiDAR
Position Accuracy	±5mm
Battery	48V/100Ah Lithium
Charging Method	Manual/Auto
Charger Power Requirements	110V, 20 Amp
Run Time	8 hrs.
Charge Time	<2 hrs.
Operation Temperature	32-113 °F 0-45 °C