

# Latent AMR

## ALR-W400 Series

### Industrial Pallet Automation. Simplified.

The **ALR-W400** is a high-capacity latent lifting AMR engineered for entry-level pallet automation in warehouses and manufacturing facilities. Designed to handle loads up to **400 kg**, it enables safe, precise, and repeatable pallet transport in space-constrained environments.

With hybrid navigation, millimeter-level docking accuracy, and intelligent obstacle protection, the ALR-W400 provides a scalable foundation for businesses transitioning from manual pallet movement to fully automated intralogistics.



#### Efficient Pallet Transfer System

Purpose-built for repetitive pallet movement tasks, enabling consistent, operator-free material flow within warehouse and factory environments.

#### Advanced Safety Protection

360° laser scanning combined with rear obstacle detection ensures reliable human-robot interaction across dynamic factory floors.

#### Space-Efficient Pallet Mobility

Slim 780 × 540 mm footprint enables automated pallet movement in standard warehouse aisles without requiring layout modifications.

## Applications



### Pallet Transfer Automation

Autonomous movement of pallets between inbound docks, storage zones, and staging areas.



### Cross-Zone Material Distribution

Seamless pallet handling across multiple operational areas within the same facility.



### Finished Goods Movement

Automated transport of completed products from assembly to dispatch or quality inspection zones.



### Warehouse-to-Production Line Supply

Reliable pallet delivery from warehouse storage to manufacturing lines with repeatable positioning accuracy.

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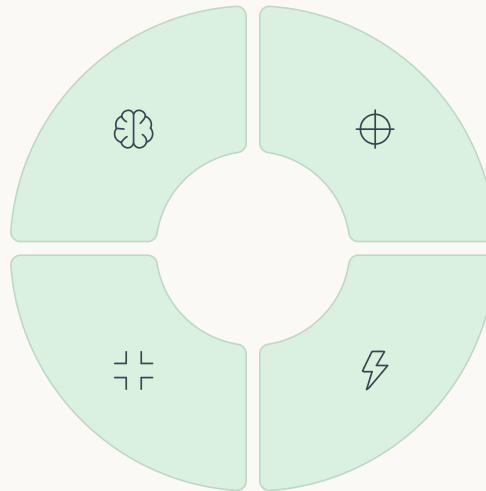
# Features & Technical Specifications

## Intelligent Lifting System

Electric latent lifting mechanism enables smooth pallet engagement with a 60 mm lift stroke, ensuring stable transport and consistent load handling.

## Compact Platform

Despite a 400 kg rated capacity, the 250 mm chassis allows operation in confined warehouse aisles and tight industrial layouts.



## Precision Alignment

$\pm 10$  mm positioning accuracy and  $\pm 1^\circ$  angle control ensure reliable pallet pickup and drop-off, reducing alignment errors in automated workflows.

## Rapid Charging for Continuous Operations

1.3-hour fast charging with 6-hour runtime supports multi-shift operations and automated opportunity charging.

## Technical Parameters

Product Model	ALR-W400
Navigation Method	Laser SLAM / QR Code / Texture Hybrid
Dimensions (L×W×H)	780 × 540 × 250 mm   Ground Clearance: 20 mm
Rotation Diameter	810 mm
Lifting System	Electric latent lifting   Lift Distance: 60 mm
Lifting plate size	728 × 480 mm
Load Capacity	400 kg rated   Machine Weight: 110 kg
Drive Mode	Two-wheel differential
Safety Features	360° laser scanner, marker lights, collision detection, sound and light alarms
Motion Performance	2.0 m/s (No Load)   1.5 m/s (Rated Load) Climbing: 3° (5%)   Obstacle: 10 mm   Trench: 25 mm
Moving Direction	Forward and backward + Rotate in place
Stop Position Accuracy	$\pm 10$ mm
Battery Performance	Manual/Auto Modes   6h runtime   1.3h fast charge

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