# LF5 - Latent Forklift Mobile Robot

APPLICATION SCENARIOS：

Applicable in industries such as 3C electronics, food, pharmaceuticals, new energy, tobacco, express delivery, and e-commerce. Compatible with national standard pallets, non-standard pallets, and non-standard material frames. Suitable for logistics distribution, ground conveyor integration, pallet-to-person, and automated de-palletizing and palletizing integration. Capable of direct interaction with equipment such as ground conveyors, elevators, freight elevators, and air shower doors, achieving automated and efficient handling.

Logistics Distribution
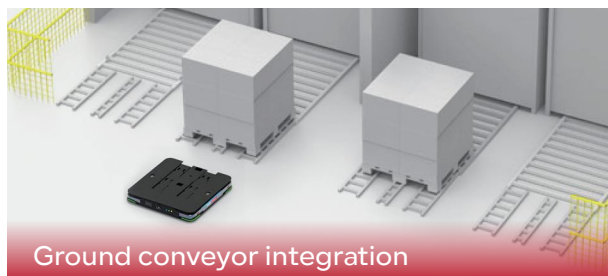
Ground conveyor integration

Pallet-To-Person

Automated de-palletizing and palletizingintegration

FUNCTIONAL CHARACTERISTICS

◆ **Autonomous positioning and navigation：**AGVs use technologies such as QR code navigation, laser SLAM navigation, and texture navigation for precise positioning.

◆ **Heavy Load Handling:**AGVs support the handling, transporting, rotating, and placing of loads up to 1000Kg.

◆ **Flexible Motion Control:**Equipped with differential drive with dual wheels, AGVs support movements such as forward, backward, and rotation, ensuring smooth and gentle motion.

◆ **Multiple safety protections:**It supports front and rear laser detection, front and rear binocular detection, 360° anti-collision edge, front/rear emergency stop buttons and other multi-level safety protections to achieve safe and reliable motion control.

◆ **Intelligent power management:**Supports multi-level power threshold control, autonomous charging when the battery is low, and autonomous return to work after completion of charging.

◆ **Equipment Status Indication:**AGVs provide multiple light effects to indicate various vehicle statuses.

◆ **Wireless Network Communication:**AGVs support WiFi network communication and seamless roaming, enabling unobstructed operation within network coverage areas.

◆ **User-Friendly Human-Machine Interaction:**AGVs feature audio-visual alerts to notify nearby operators.

TECHNICAL PARAMETERS

MAIRUI ROBOT

INDEX		PARAMETER
General	Rated Load (kg)	1000
	Dimensions (mm)	1250（L）×1200（W）×190（H）
	Self Weight (kg)	300
	Navigation Method	QR Code/VSLAM/LSLAM
	Turning Diameter (mm)	1640
	Maximum Fork Lift Height (mm)	330
	Fork Height from Ground After Lowering (mm)	90
	Single Fork Width (mm)	164
	Fork Outer Width (mm)	600
	Fork Inner Width (mm)	272
	Fork Extension from Body Max (mm)	≤1400
	Minimum Ground Clearance (mm)	25
	Suitable Pallet Fork Hole Height (mm)	100-130
	Suitable Pallet Fork Hole Outer Width (mm)	≥700
	Suitable Pallet Fork Hole Inner Width (mm)	≤180
	Suitable Pallet Size (L*W) (mm)	(1000~1300)*(1000~1300)
	Obstacle Detection Laser Scanning Surface Height (mm)	145
	Pallet Detection Laser Scanning Surface Height (mm)	50
	Display Screen	5 inches
Safety Protection	Obstacle Detection Laser	One on each front and rear diagonal
	Collision Bar Detection	Available
	Pallet Presence Detection	Available
	Fork Tip Collision Detection	Available
	Emergency Stop Button	Two on each side
	Sound and Light Alarm	Available
Motion Performance	Movement Method	Dual-wheel differential drive, supports forward/reverse, arc turns, and on-the-spot rotation
	Movement Speed (Unloaded/Loaded) (m/s)	1.8/1.5
	Positioning Accuracy (mm)	±10
	Angle Accuracy	±1
	Maximum Climbing Ability (Unloaded/Loaded) (°)	4
	Single Pick and Place Time (s)	28
	Fork Lift/Lower Time (Unloaded/Loaded) (s)	≤8.5
	Fork Extend/Retract Time (Unloaded/Loaded) (s)	≤4.5
Battery Performance	Rated Voltage (V)	48
	Capacity (AH)	28

Scan to visit Mairui Robot's website for more on AGV | AMR info

Battery Performance	Battery Charging Cycles	Fully charging & discharging 1500 times
	Endurance(H)	≥8
	Charging Time (H)	≤1.5
	Battery Type	Lithium Iron Phosphate

PRODUCT SIZE

Unit(mm)

ø1640

1250

190

1200
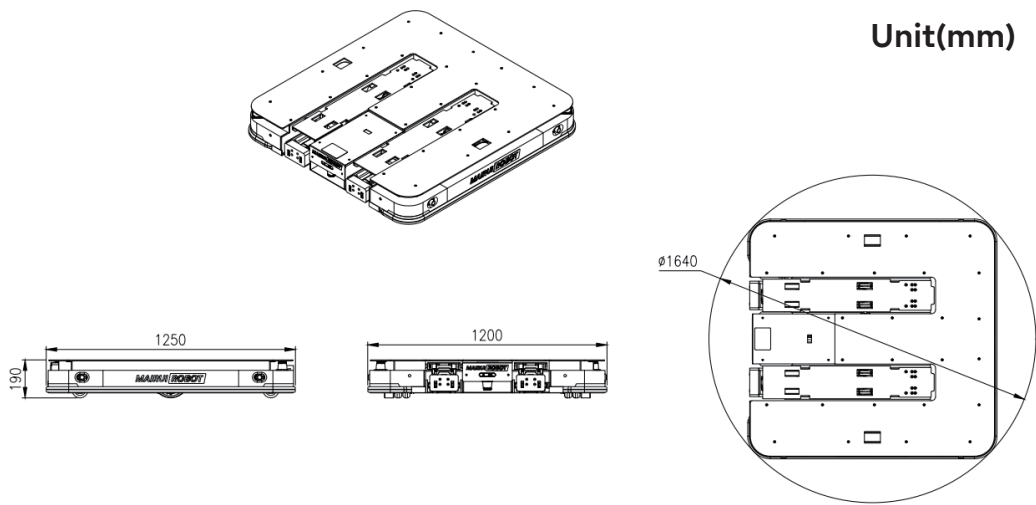
CHARGING DISTANCE GUIDE

646±5
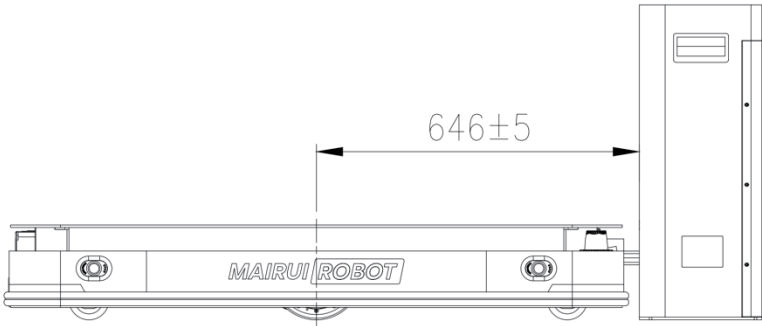
MODEL

Model	Material code
LF5-1000C10B-MR	1.0.13.01.0001

OPTIONAI ACCESSORIES

Accessories	Model	Material code
Charging station	MRC_V3.0_15A	1.0.04.05.0007
External debugging cable	Network Cable, RJ45 to RJ45	/