MiR1200 Pallet Jack specifications

Date: 2025-06-10

The product specifications in English are the most recently updated on the Support Portal.

See the latest updates here.

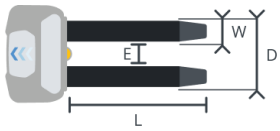
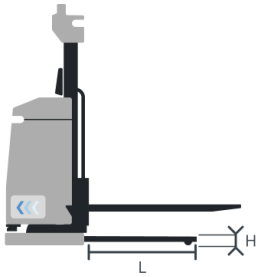
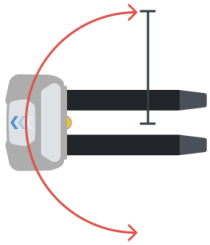
Specifications may vary based on local conditions and application setup.

General information

Designated use	Autonomous mobile robot (AMR) for automated driverless conveyance of heavy loads
Type	Autonomous Mobile Robot (AMR)
Color	RAL 7011 / Iron Gray
Product design life	5 years or 20 000 hours of active operation, whichever comes first
IP rating	IP 52

Dimensions

Length	1 934 mm
Width	820 mm
Height	2 120 mm
Weight	750 kg
Weight distribution (no payload)	Drive wheel: 500 kg Each caster wheel: 150 kg Each support leg roller: 100 kg
Maximum lift height	1 120 mm
Maximum height where robot can pick up and place pallets automatically	850 mm
Fork dimensions	Length (L): 1182 mm

	Fork width (W): 188 mm Distance between outer edges (D): 560 mm Distance between inner edges (E): 184 mm Fork height: 63 mm
Support leg dimensions 	Length (L): 880 mm Height (H): 85 mm
Turning radius 	1564 mm

Payload

Maximum payload	1 200 kg
Pallet types	EPAL 1 pallets, grade A and B EPAL 3 pallets, grade A and B 1250 × 1250 mm (48"×48") carts 45" x 48" nestable pallets
Maximum payload height	2 000 mm
Payload placement	Place center of mass according to directions in the manual.

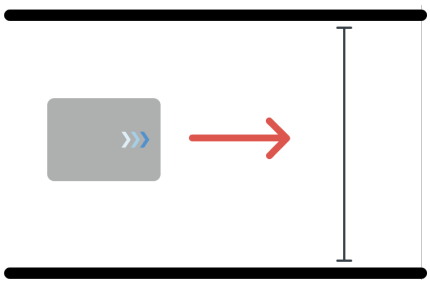
Performance

Maximum speed (with maximum payload on a	1.5 m/s (5.4 km/h)

flat surface)	
Maximum acceleration	No payload: 0.3 m/s^2
Maximum noise level	77.3 dB
Time used when picking up and placing pallets	From front Entry position: Up to 40 s pick up time and up to 30 s place time From right or left Entry positions: Up to 55 s pick up time and up to 50 s place time
Time used when docking to or undocking from a charging station	Docking time: up to 18 s Undocking time: up to 9 s

Space requirements

Operational corridor width

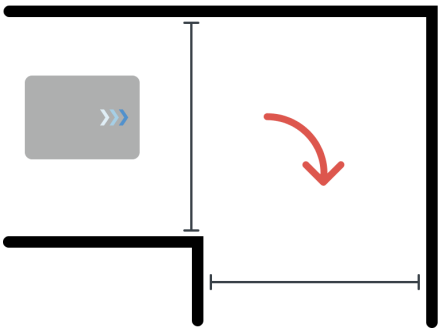


EPAL 1

At full speed: 2.10 m
At reduced speed: 1.55 m

Other loads still being tested

Operational corridor width for a 90° turn



EPAL 1

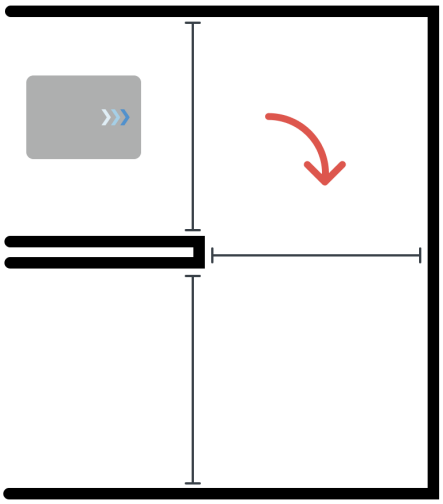
1.90 m

Other loads still being tested

Operational corridor width for a U-turn

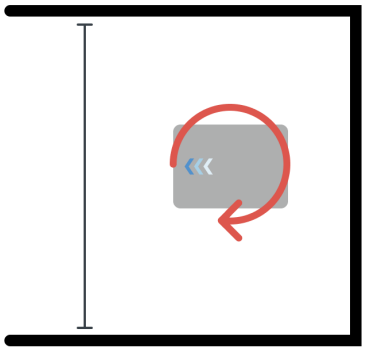
EPAL 1

1.95 m



Other loads still being tested

Operational width for pivoting



EPAL 1

2.75 m

Other loads still being tested

Operational doorway width

EPAL 1

1.40 m

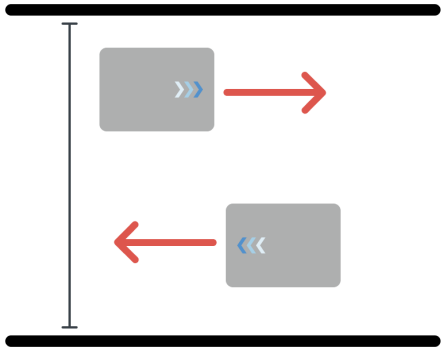
Other loads still being tested

Operational corridor width for two robots passing

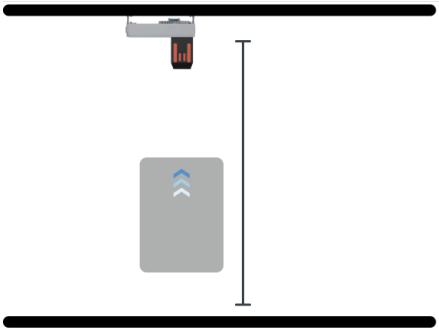
EPAL 1

At full speed: 3.80 m
At reduced speed: 2.90 m

Other loads still being tested

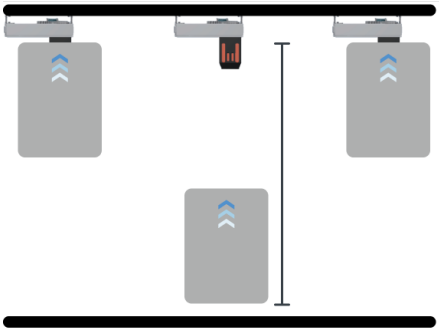


Minimum space in front of single charging station



4.00 m

Minimum space in front of line of charging stations

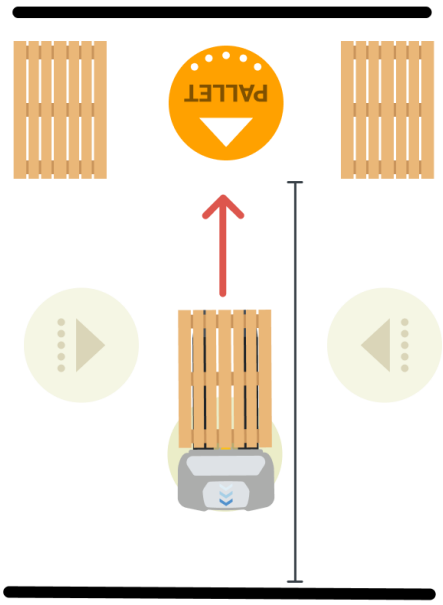


4.60 m

Minimum distance between charging stations

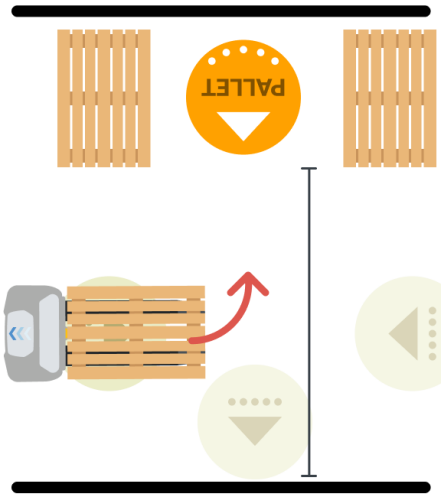
0.60 m

Minimum space in front of EPAL 1 pallets on the floor (when using front Entry position)



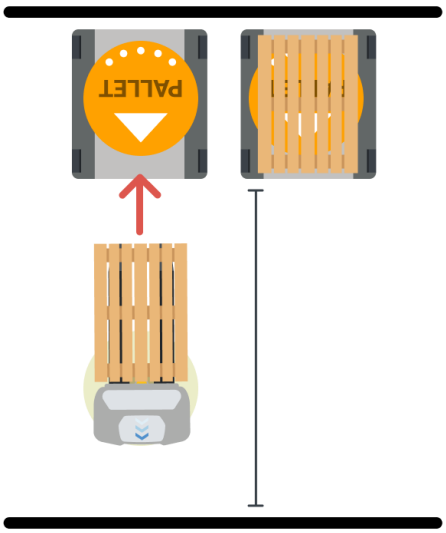
3.5 m

Minimum space in front of EPAL 1 pallets on the floor (when using left or right Entry position)



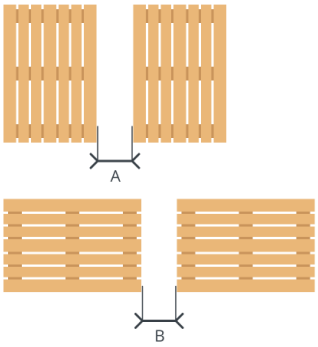
2.7 m

Minimum space in front of raised pallet stations with EPAL 1 pallets



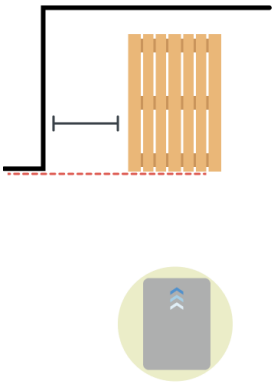
2.9 m

Minimum distance between EPAL 1 pallets in a single row

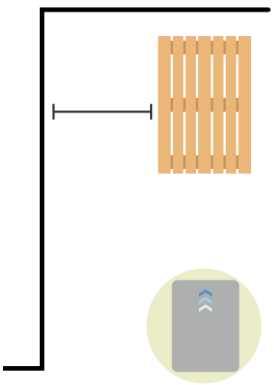


Side to side (A): 0.30 m
End to end (B): 0.25 m

Minimum space to the sides of EPAL 1 pallet for aligned obstacles



0.3 m

Minimum space to the sides of EPAL 1 pallet to Entry position 	Front Entry position: 0.45m Left or right Entry position: 1.2m
Minimum space behind a EPAL 1 pallet	0.35 m
Surface deviation for picking up and placing EPAL 1 pallets	±1°

Power

Battery type	Lithium-ion, 3 pcs.
Charging options	• Charge 48V 35A • Charge 48V 105A • MiR Charge 48V (requires non-reflective mat) • Battery Charger 48V 12A • Battery Charger, 48V 650W 13.5A • Battery Charger, 48V 1200W 13.5A • Cable Charger Lite 48V 3A
Battery weight	11 kg per battery
Battery dimensions	545 × 201 × 75 mm per battery
The minimum number of full charging cycles before the battery capacity drops below 80%	3 000 cycles
Battery voltage	47.7 V nominal, minimum 42 V, maximum 54 V

Battery capacity	102.6 Ah
Active operation time with mixed payload (90–10%)	7 h 40 m

Environment

Environment	For indoor use only
Ambient temperature range, operation	5–25°C for continuous use, maximum 40°C for 1 hour
Ambient temperature range, storage	1 month: -20–60°C 3 months: -20–45°C
Humidity	20–95% non-condensing
Floor conditions	Clean and dry
Maximum slope at rated load	0%
Maximum step at rated load at 0.5 m/s	10 mm
Floor to wheel frictional coefficient	0.60–0.80
Material the robots cannot detect reliably	Transparent, translucent, glossy, reflective, and light emitting
Optimal light conditions	Even and steady lighting (strong directional light can cause the robot to detect non-existent obstacles)

Compliance

Design based on principles in safety standards for industrial vehicles	EN ISO 12100:2010, ISO 13849-1:2023, EN ISO 13850:2015, EN ISO 3691-4:2023, EN IEC 61000-6-4:2007/A1:2011, EN IEC 61000-6-2:2005/AC:2005, EN 12895:2015+A1:2019

Sensors

Safety laser scanners	3 pcs (front and rear), give 360° personnel detection

	around the robot
3D cameras	5 pcs, for pallet and obstacle detection
3D LiDAR	1 pcs, for obstacle detection
Ultrasonic sensor	1 pcs, for detecting pallets are securely placed on the forks

Lights and audio

Audio	Speaker and safety buzzer
Status light	4 LED bands, indicates the robot status
Signal lights	4 pcs, indicates robot driving behvior and direction
Blue light	1 pcs, projects blue light 420 cm in front of the robot to alert personnel that the robot is approaching