



The Mobile Robot Company

Knowledge Center — Site Suitability · 2026-08-04

<https://info.mobilerobot.com/applications/planning/site-suitability>

Site Suitability

The J1600 is designed for existing indoor facilities and needs no building modifications, tracks, wires, or reflectors. A site still has to meet a set of environmental and physical requirements for autonomous operation. This page lists them so you can assess a facility before a trial or deployment.

PRELIMINARY SPECIFICATIONS

The January 2026 specifications on this page are preliminary and subject to change. Confirm limits against current product documentation before a deployment decision.

Environment

Parameter	Requirement
Location	Indoor
Operating temperature	5–40°C (41–104°F)
Relative humidity	20–80%, non-condensing
Ingress protection	IP21 — protected against objects over 12.5 mm and vertically dripping water

IP21 rules out washdown areas, spray, and standing water on the route. Unheated spaces that drop below 5°C — including frozen storage — are outside the [operating range](https://info.mobilerobot.com/documentation/installation/operating-environment-requirements/) (<https://info.mobilerobot.com/documentation/installation/operating-environment-requirements/>).

Floors

Parameter	Requirement
Gradeability, automatic mode	0° / 0% — level floors only
Gradeability, manual mode, no load	2.86° / 5%
Gradeability, manual mode, full load	1.72° / 3%
Maximum traversable bump height	25 mm (1 in)
Maximum traversable gap width	20 mm (0.8 in)
Floor flatness/levelness	TR34 FM3 (FF 25 / FL 20)

Autonomous mode is a level-floor application. Dock plates and slopes remain manual tasks. For route-level assessment, see [Route and floor suitability](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/) (<https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/>).

Space and clearances

Plan aisles, doorways, and turning areas around [the vehicle's dimensions](https://info.mobilerobot.com/documentation/technical-reference/dimensions/) (<https://info.mobilerobot.com/documentation/technical-reference/dimensions/>):

Parameter	Metric	Imperial
Vehicle length	1,893 mm	75 in
Vehicle width	850 mm	33 in
Vehicle height, forks lowered	2,060 mm	81 in
Vehicle height, forks at maximum height	2,350 mm	93 in
Turning radius	1,501 mm	59 in
Ground clearance	30 mm	1.2 in

The 3D navigation LiDAR scans environmental structures at heights reaching up to 70 m above the vehicle, so the robot localizes from the building itself — including in facilities with high ceilings.

Charging locations

Plan one of [two charging arrangements](https://info.mobilerobot.com/documentation/user-guides/charging/) (<https://info.mobilerobot.com/documentation/user-guides/charging/>):

- **Manual charging:** a charger is plugged in during breaks or idle time, the same way an electric pallet jack is charged. Reserve a [parking spot](https://info.mobilerobot.com/applications/scenarios/deliver-and-park/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-park/>), near an outlet.
- **Automatic charging** (<https://info.mobilerobot.com/applications/scenarios/automatic-charging/>): with the optional automatic charger, the robot drives to the station and docks itself for opportunity charging. [Reserve floor space for the station](https://info.mobilerobot.com/documentation/installation/charger-installation/) (<https://info.mobilerobot.com/documentation/installation/charger-installation/>); setup is part of installation Day 1 when the automatic charger is purchased.

The battery is a [24 V, 200 Ah lithium iron phosphate \(LiFePO₄\) unit](https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/>) that charges at approximately 47 percentage points per hour. Runtime exceeds eight hours in a typical duty cycle. See [Charging details](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>).

Connectivity

[Wi-Fi is optional for basic use](https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/) (<https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/>), and [no warehouse-management-system, fleet manager, or IT integration](https://info.mobilerobot.com/applications/results/lower-integration-complexity/) (<https://info.mobilerobot.com/applications/results/lower-integration-complexity/>) is mandatory. Sites planning fleet operation or software integration need network coverage for the [Advanced software](https://info.mobilerobot.com/products/software/advanced-software/) (<https://info.mobilerobot.com/products/software/advanced-software/>) features; see [Deployment scope examples](https://info.mobilerobot.com/applications/planning/deployment-scope-examples/) (<https://info.mobilerobot.com/applications/planning/deployment-scope-examples/>).

Real-world site conditions

The J1600 is validated at the company's [Copenhagen test facility](https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/) (<https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/>) under intentionally imperfect conditions, including uneven flooring and water-filled test loads. Dynamic obstacles, people, and changing layouts are handled by [3D LiDAR SLAM navigation with obstacle avoidance](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) (<https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/>) — but the limits above still apply. If your site is near a limit, validate it in a [trial](https://info.) (<https://info.>

[mobilerobot.com/applications/planning/trial-planning/](https://info.mobilerobot.com/applications/planning/trial-planning/)) or [proof of concept \(https://info.mobilerobot.com/applications/planning/proof-of-concept-planning/\)](https://info.mobilerobot.com/applications/planning/proof-of-concept-planning/).