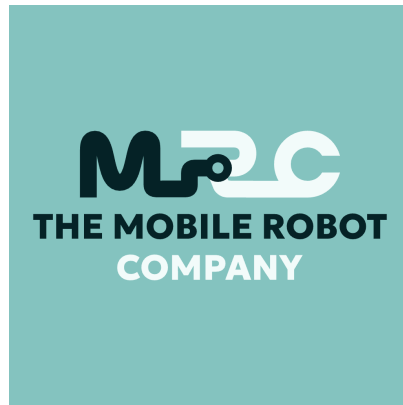




The Mobile Robot Company

Knowledge Center — Operating Environment · 2026-08-04

<https://info.mobilerobot.com/products/j1600/operating-environment>

Operating Environment

The J1600 (<https://info.mobilerobot.com/products/j1600/overview/>) is designed for indoor, floor-to-floor transport. This page lists the environmental limits a site must meet, in both automatic and manual mode.

PRELIMINARY SPECIFICATIONS

These January 2026 specifications are preliminary and subject to change.

Environmental limits

Parameter	Metric	Imperial/other
Gradeability, automatic mode	0°	0%
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
Minimum operating temperature	5°C	41°F
Maximum operating temperature	40°C	104°F
Relative humidity	20–80%	non-condensing
Floor flatness/levelness	TR34 FM3	FF 25 / FL 20
Ingress protection	IP21	protected against objects over 12.5 mm and vertically dripping water

What the limits mean in practice

- **Automatic mode is a [level-floor application](https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/)** (<https://info.mobilerobot.com/applications/planning/route-and-floor-suitability/>). With 0% automatic gradeability, slopes, ramps, and steep dock plates remain manual tasks. In [manual mode](https://info.mobilerobot.com/documentation/user-guides/manual-operation/) (<https://info.mobilerobot.com/documentation/user-guides/manual-operation/>), the vehicle climbs up to 5% unloaded or 3% fully loaded.
- **Small floor defects are tolerated.** Bumps up to 25 mm and gaps up to 20 mm can be traversed; the floor must meet TR34 FM3 (FF 25 / FL 20) flatness.

- **Indoor climate only.** IP21 protection and the 5–40°C, 20–80% non-condensing range rule out outdoor operation, cold stores below 5°C, and wet areas.

The division of labor follows from these limits: the operator handles dock plates, slopes, and irregular surfaces manually, and the robot automates the level-floor travel. See [Dual mode](https://info.mobilerobot.com/products/j1600/dual-mode/) (<https://info.mobilerobot.com/products/j1600/dual-mode/>) and [Applications](https://info.mobilerobot.com/products/j1600/applications/) (<https://info.mobilerobot.com/products/j1600/applications/>) for fit guidance.

Real-world validation

The company validates the J1600 at its [Copenhagen demo and test area](https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/) (<https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/>) under intentionally real-world conditions, including uneven flooring, water-filled test loads, and multiple test setups. The limits above still apply to production deployments.

Related pages

- [Technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>) — the master data table.
- [Pallet and load compatibility](https://info.mobilerobot.com/products/j1600/pallet-and-load-compatibility/) (<https://info.mobilerobot.com/products/j1600/pallet-and-load-compatibility/>) — the load envelope that applies alongside these site limits.
- [Navigation and obstacle avoidance](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) (<https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/>) — how the robot handles dynamic obstacles within a compliant site.