WANJI

Intelligent all-electric lawn mower

WANJI R-1

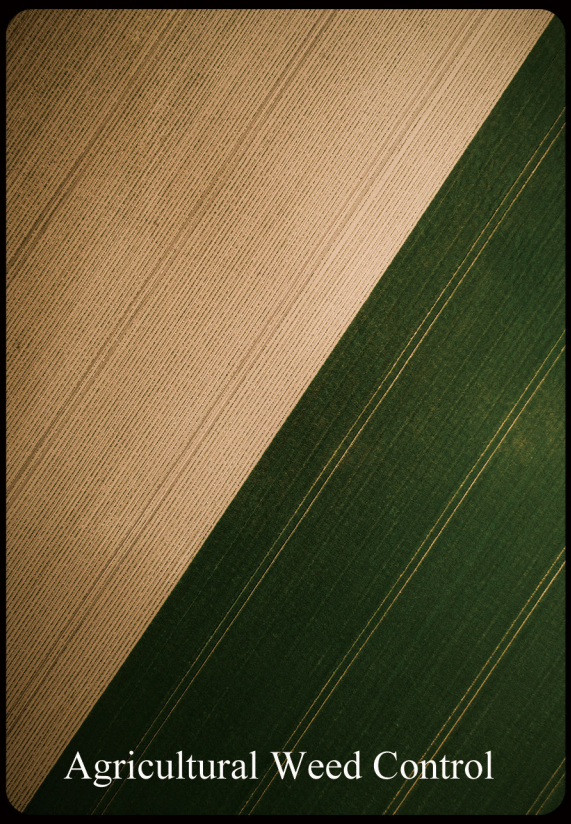
Multi-scenario, all excellent



Diverse operational scenarios

Suitable for diverse terrains, it navigates complex and varied landscapes with ease—whether in meticulously manicured gardens, expansive orchards, or undeveloped wastelands. This capability significantly reduces labor costs and enhances operational efficiency.


Fruit Orchard


Agricultural Weed Control


Lawn mowing


Clear land and weed


Landscaping in the Park

All-new mowing experience

WANJI R-1 Smart All-Electric Lawnmower, equipped with 3D radar and dual cameras, achieves centimeter-level obstacle detection and autonomous path planning. It supports remote monitoring and task scheduling via smartphone, ushering in a new chapter in smart agriculture.

NAV-L3 Omnidirectional Autonomous Navigation System

GNSS-RTK Positioning and Navigation System
Omnidirectional Path Planning
Centimeter-Level Accuracy



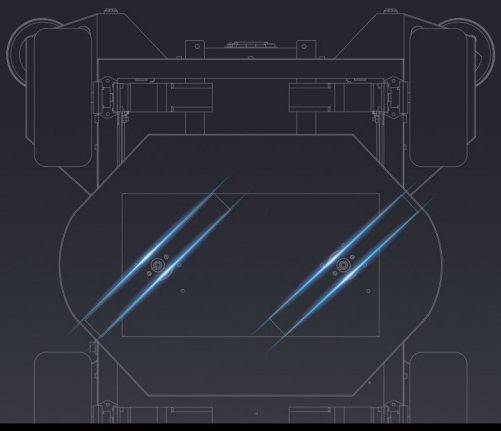
4WD differential drive

Precise directional control
On-the-spot turning



31-inch cutting width Precision cutting

Distributed Cutting Blade Design
Compatible with Elevating Platform
Lifting Range: 0.8 in – 3.9 in



High-efficiency endurance

Lithium Iron Phosphate Battery
Operating Time: 2 hours
Coverage Area: 1 acre



Automatic Obstacle Avoidance/ Obstacle Circumvention (Optional)

Multiple sensor groups detect obstacles in real time



Climbing angle: 20°

Stable operation on muddy and sloping terrain



All-Directional Autonomous Navigation System

NAV-L3 is a high-precision positioning, navigation, and control system based on BeiDou-RTK technology, designed for autonomous navigation tasks of low-speed mobile robots. It outputs critical information such as positioning data, autonomous operation speed values, and angular values. When paired with the “Smart Operation” app, it enables autonomous control of low-speed mobile robots equipped with NAV-L3.



GNSS + LiDAR

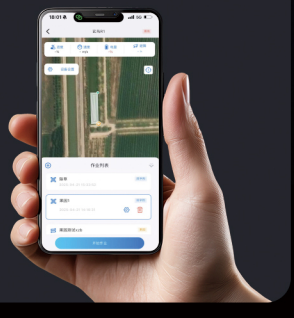
Multi-sensor fusion navigation system
RTK positioning mode
Achieves centimeter-level positioning accuracy

0.79in Positioning accuracy

0.2° Directional accuracy

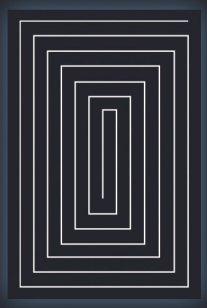
Remote control

Supports connection via mobile app
Quick configuration of device parameters
Status monitoring and data transmission



U-shaped path

The most conventional working path, suitable for most scenarios, involves spiral inward cutting along the lawn edge to ensure neat boundaries. RTK centimeter-level positioning prevents redundant coverage, reducing energy consumption by 30%.





Bow-shaped path + obstacle zone

Parallel zigzag operation boosts coverage efficiency by 45%, ideal for regular open lawns. Path deviation is eliminated via turning compensation algorithms, with a missed-cut rate <0.5%.





Orchard Work Area

An all-terrain operation solution specifically designed for multi-row orchard structures, achieving efficient and precise mowing in complex planting environments through RTK centimeter-level positioning and multi-sensor fusion.



Single Ridge

Across the Loess Plateau





Custom Workspace

Customizable mowing zones can be set for irregular areas, supporting bow-shaped autonomous paths. Obstacle zones can be configured within the working area for avoidance, making it ideal for narrow or irregular spaces.







Detailed Specifications





Norm	Parameters
Chassis Material	Powder coating
Dimensions	40.6 × 40.9 × 21.7 in
Net Weight	238 lbs
IP Rating	IP54
Travel Speed	3.7 mph
Climbing Ability	≤20°
Mowing Efficiency	Approx. 0.5 acres/h
Control Mode	2.4GHz Remote Control / Autonomous Navigation
Drive Motor	400W Servo Motor x 4

Norm	Parameters
Battery Type	Lithium Iron Phosphate (Swappable)
Runtime	2h (48Ah battery)
Charging Current	20A
Charging Time	2.5h
Operating Voltage	48V
Cutting Width	31.1 in
Cutting Height Range	0.8–3.9 in
Blade Speed	3,000 rpm
Blade Motor Power	850W x 2