

AOEXO Agricultural Drone - Crop Spraying, Fertilizing, Seeding, and Plant Protection Machine

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Product Overview

The AOEXO Agricultural Drone is engineered for high-efficiency precision farming, integrating crop spraying, fertilizing, and seeding. Equipped with a **dual-radar intelligent obstacle avoidance system** and an **80L super-large spreading tank**, it supports fully automated operations and remote control. Powered by an 18S 30000mAh smart battery, it offers **18 minutes of flight time (unloaded)** and **7 minutes (fully loaded)**, with a spraying width of 6-10m and an operational efficiency of 1-3 acres per minute. The carbon fiber/nylon fiber-aluminum alloy truss structure and IP67 waterproof/dustproof design ensure reliability in orchards, farmlands, and complex terrains. Standard centrifugal nozzles and a high-precision impeller pump deliver $\leq 150\mu\text{m}$ atomized particles with strong penetration, while the millimeter-wave terrain-following radar enables $\pm 10\text{cm}$ altitude control, improving pesticide utilization by 30%.

10 Key Features

- **Dual-Radar Intelligent Obstacle Avoidance:**
Millimeter-wave obstacle radar (3-15m detection)
+ terrain-following radar ($\pm 10\text{cm}$ accuracy).

- **Military-Grade Protection:** IP67 waterproof/dustproof body, corrosion-resistant, scratch-resistant.
- **Ultra-High Efficiency:** 12L/min centrifugal nozzles, 1-3 acres/min efficiency, 24-hour continuous operation.
- **Full-Scenario Adaptability:** 80L spreading tank + 50L pesticide tank, one-click mode switching.
- **Smart Power System:** 18S 30000mAh battery with variable-frequency fast charging (full charge in 45 minutes).
- **Foldable & Portable:** 635mm folded width, 3-minute deployment, fits pickup trucks.
- **Reinforced Truss Structure:** Carbon fiber + nylon fiber-aluminum alloy frame, 99kg load capacity.
- **Dual-Redundancy Control:** H12 remote + mobile app, 3km range, auto-return on disconnect.
- **Precision Variable Application:** AI-driven chemical concentration matching, $\leq 1.5\%$ flow error.
- **Easy Maintenance:** Modular flight controller, quick-release nozzles, arm wrench sensors (50% faster repairs).

Technical Specifications

Basic Performance

Parameter	Specification
Model	AOEXO H12 Agricultural Drone

Parameter	Specification
Applicable Scenarios	Orchard/Field spraying, fertilizing, seeding
Unfolded Dimensions	1905×1720×815mm
Folded Dimensions	635×1340×815mm
Diagonal Wheelbase	2300mm
Weight (Empty)	35kg
Max Takeoff Weight	99kg
Operating Voltage	75.6V (18S)
Control Range	3km (interference-free)
Protection Rating	IP67 (Body) / IP55 (Electronics)

Operational Systems

Module	Specification
Spraying System	
Tank Capacity	50L (Dual inlet ports)
Nozzle Type	Centrifugal nozzles×2
Atomization Size	50-150μm
Flow Rate	1-12L/min
Working Pressure	0.8MPa
Effective Spray Width	6-10m
Drug Outage Protection	Auto-stop + Return-to-Home
Spreading System	
Spreading Tank Capacity	80L
Spreading Accuracy	±5% (granular materials)
Spreading Rate	1-15kg/min
Compatible Materials	Seeds/Fertilizers/Bait (≤8mm particles)

Flight Performance

Parameter	Specification
Flight Speed	5-10m/s (adjustable)
Max Ascent Speed	5m/s
Hover Accuracy	Vertical $\pm 0.1\text{m}$ / Horizontal $\pm 0.3\text{m}$ (GPS mode)
Flight Time	18min (unloaded) / 7min (loaded)
Wind Resistance	Level 6 (13.8m/s)
Operating Altitude	1.5-10m (terrain-following mode)

Smart Systems

Module	Specification
Flight Controller	Integrated FC (Dual IMU redundancy)
Positioning System	GPS+BeiDou dual-mode ($\pm 10\text{cm}$ accuracy)
Obstacle Avoidance	Forward millimeter-wave radar (20cm precision)
Terrain-Following Radar	$\pm 10\text{cm}$ terrain tracking
Remote Controller	H12 Smart Remote (7-inch high-brightness screen)
Smart Functions	One-click return, resumable spraying, geofencing

Power & Energy

Parameter	Specification
Motor Type	Waterproof brushless motors $\times 8$
Single Motor Power	3000W
Battery Model	AOEXO-18S30000
Battery Capacity	30000mAh
Charging Time	45 minutes (fast charge)
Cycle Life	≥ 800 cycles (80% capacity)

Parameter	Specification
	retention)

Structural Design

Component	Specification
Body Material	Carbon fiber main beam + nylon fiber reinforced parts
Arm Structure	Quick-release wrench design (built-in stress sensors)
Circuit System	2oz thick copper PCB + waterproof connectors
Spraying Pump	High-precision impeller pump (ceramic shaft core)

Note: Performance data based on standard test conditions (25°C, 60% humidity). Efficiency may vary with terrain, wind, and payload.