



ANANTAK



APJ

Autonomous electric pallet jack

**BIGJOE (base) + Anantak Robotics
(autonomous system)**

Manufacturer

Manual / Autonomous / Remote-Service
Operating Modes



LOAD & WEIGHT

Maximum Load Capacity	4,400 lbs (2,000 kg)
Vehicle Service Weight	1,577 lbs (715 kg)
Battery Weight	137 lbs (62 kg)
Runtime	Up to 12-hour continuous runtime.

DIMENSIONS

Overall Length	74 in (1,875 mm)
Overall Width	35 in (892 mm)
Fork Length	46 in (1,162 mm)
Forklift Height	4.7 in (120 mm)
Lowered Fork Height	3.3 in (85 mm)
Ground Clearance	1.2 in (30 mm) at center of wheelbase
Turning Radius	71 in (1,806 mm)

PERFORMANCE

Travel Speed (laden/unladen)	Up to 5.5 mph / 2.45 mps
Lifting Speed (laden/unladen)	2 / 2.1 ips (50 / 50 mm/s)
Lowering Speed (laden/unladen)	2.6 / 2.1 ips (67 / 54 mm/s)
Max. Gradeability (laden/unladen)	8% / 16%

PALLET REQUIREMENTS

40 in x 48 in Pallet	103 in (2,606 mm) minimum aisle width
32 in x 48 in Pallet	97 in (2,463 mm) minimum aisle width

AUTONOMOUS NAVIGATION SYSTEM

Navigation Method	Multimodal Sensor System: 3D LiDAR + cameras for spatial mapping
Infrastructure	None required — works in existing facilities as-is; no floor changes, guide paths, reflectors, or special lighting needed
Path Programming	Pre-captured facility map loaded onboard; vehicle self-localizes and navigates programmed routes autonomously
Localization	AI-powered Visual Place Recognition cross-checks laser and camera data continuously
Compute Platform	NVIDIA Jetson AGX Orin – industrial-grade AI processor for robotics
Connectivity	Wi-Fi 2.4/5/6 GHz and Cellular LTE
Detection Coverage	360° around vehicle at all times during autonomous operation
Obstacle Response	Speed reduces as objects approach; full stop if protective zone is breached; auto-resumes when path is clear
Emergency Stop	Accessible physical e-stops in vehicles in accordance with ISO13850:2015
Remote Monitoring	Live status, error alerts, and telemetry via Siteview web dashboard
Remote Diagnostics	Faults logged automatically in cloud; diagnosed remotely to reduce downtime



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ELECTRIC / ENGINE

Drive Motor (S2 60 min)	2.1 hp (1.6 kW)
Lift Motor (S3 15%)	3.0 hp (2.2 kW)
Battery Voltage Capacity	24V / 210Ah EP Li-Ion battery
Service Brake	Electromagnetic
Drive Control	AC
Steering Design	Electronic
Sound Pressure Level	74 dB(A)

SENSOR SUITE

3D LiDAR (Nav+Safety)	Three-dimensional laser scanning for navigation accuracy and height-aware obstacle detection
3D Depth Camera	Rich 3D view for detecting low, irregular, or complex obstacles
Eyrie Unit	Pillar-mounted housing combining 3D LiDAR and camera in a single multimodal sensor unit; delivers full-surround perception
2D Safety LiDAR	Flat-plane laser scanner covering vehicle perimeter for obstacle detection

SAFETY FEATURES

360° Detection	Continuous LiDAR perimeter scan; any object person, cart, pallet, or equipment, triggers immediate response
E-Stop Buttons	Accessible physical e-stops in vehicles in accordance with ISO13850:2015; immediate stop on press
Audible Warnings	Configurable tones based on machine states and autonomous travel
Auto Parking Brake	Engages automatically on every stop; prevents unintended movement
Snapbright Lighting	Color-coded LED status indicator communicates operational state in real time
Safe Start Confirmation	Vehicle will not move until all safety conditions are confirmed

OPERATOR INTERFACE TOOLS

Voyager App (Tablet)	Primary Robot HMI: route selection, GO/STOP/CONTINUE, live status, battery monitoring, cart management
Siteview (Web)	Cloud-based fleet dashboard for supervisors: multi-vehicle coordination, remote commands, telemetry, health monitoring

ENVIRONMENTAL & OPERATING CONDITIONS

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Relative Humidity	10%-95%, non-condensing
Facility Types	Warehouses, distribution centers, automotive plants, heavy industrial, logistics hubs
Operating Area	Indoor industrial environments with shared human-machine workspaces; limited outdoor use possible
Not Suitable For	Public roads, residential areas, explosive / ATEX-classified zones

FLEET MANAGEMENT

Fleet Manager	Central coordination layer for multi-vehicle task assignment, routing, and traffic management
Queue Management	Dynamic multi-factor orchestration: station availability, intersection load, routing priority, time-of-day patterns
Intersection Control	Virtual zones enforce exclusive machine occupancy at high-traffic intersections
Charging Management	Autonomous routing to charging stations with load balancing across lanes
Hawkeye	Overhead camera system: detects pallets, vehicles, and personnel in high traffic areas; autodispatches machines without manual triggers
Firefly	IoT devices at key facility points; configurable buttons + Snapbright LED panel for on-floor traffic control and personnel awareness
Fleetview TV	On-prem real-time graphical visualization of all machine positions, statuses, and site activity
Siteview	Cloud-based fleet management and operations dashboard: machines, stations, queues, intersections, alerts, and performance metrics
Site Configuration	Fully configurable station placements, stop locations, queue logic, and intersection zones per facility

CYBERSECURITY

Access Control	Role-based access control (RBAC) with password-protected login across all interfaces
Communications	Encrypted HTTPS for all cloud service interactions
Diagnostics	Faults logged automatically in cloud; remote diagnosis reduces on-site downtime



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