Electric Platform Vehicle

I. Working Process

The Electric Platform Vehicle is a short-distance material handling equipment integrating electric travel and hydraulic lifting functions. The whole machine adopts electromechanical-hydraulic integrated design, powered by storage battery, combining both flat-surface movement and aerial lifting operations, with core divided into two major process modules: travel driving and lifting execution.

The travel module uses DC drive motor with gearbox and transmission wheel set to drive the equipment for smooth forward, backward movement and steering. Some high-spec models are equipped with electromagnetic braking system to achieve precise start-stop and stable parking. The entire process requires no manual pushing, significantly reducing manual handling intensity.

The lifting module uses hydraulic pump station to drive hydraulic cylinder extension and retraction, combined with scissor-type mechanical structure for force transmission, achieving smooth and uniform lifting and lowering of the work platform. The hydraulic system has built-in overflow protection and throttle speed regulation functions, ensuring stable and smooth lifting without shaking while preventing damage from overload operation. The entire operation is completed via handheld remote controller or panel buttons, requiring no complex manual operation. It can easily handle material lifting, high-level stacking, equipment maintenance, and short-distance transfer operations. The whole machine operates with zero exhaust emissions and extremely low noise, suitable for various enclosed or open sites both indoors and outdoors.

II. Key Parameters

Electric Platform Vehicles are divided into three major series: light-duty standard type, heavy-duty type, and fixed scissor type, covering applications from daily small-item transfer to large heavy object lifting. Sizes and load specifications can be customized based on actual usage requirements, and core performance parameters are all designed following industrial equipment safety standards.

Standard models have rated load range from 300kgto 5,000kg, meeting most factory and warehouse material handling needs. Special heavy-duty models can be customized to 10tons or more. Lifting height starts from 300mm. Standard operation models have maximum lifting height up to 1.5meters. High-altitude operation models can extend to 4 meters. Scissor sections are adapted to lifting height to ensure stability. Travel speed is controlled at 3-5km/h. Constant speed driving ensures material safety. Small turning radius enables small-angle pivoting in place, suitable for narrow passages, workshop aisles, and other confined spaces. Power configuration includes large-capacity lead-acid battery or lithium battery. Lithium battery models are lighter with longer runtime. After full charge, runtime can reach 8-15 hours, meeting full-day continuous operation needs.

The equipment platform uses anti-slip patterned steel plate material. Standard platform sizes range from 800mm x 600mm to 2000mm x 1200mm available. The whole machine is equipped with anti-collision rubber strips, emergency stop button, overload protection, and height limit protection. Travel motor protection rating reaches IP54. Hydraulic system has excellent sealing performance with no oil leakage hazards. Overall operation noise is below 70dB, meeting workshop environmental requirements.

III. Operating Instructions

Before using the Electric Platform Vehicle, check the overall equipment condition: verify battery charge is sufficient, check if hydraulic pipelines have any leaks, inspect tires for damage, and ensure brake device is responsive. Platform must be free of debris and obstacles. Only use after confirming all components are in normal condition.

When loading materials, place goods evenly in the center of the platform. Off-center loading and overload operation are prohibited. Material height should not exceed the platform level excessively to prevent tipping during travel or lifting. Heavy materials need center of gravity confirmed in advance to avoid equipment tilting due to one-sided loading.

Operation is controlled via handheld remote handle or machine body control panel for travel and lifting. During travel, maintain constant speed, avoid sudden acceleration or braking. Slow down when turning and pay attention to surrounding

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personnel and obstacles. Forced travel on steep slopes or uneven ground is strictly prohibited. On soft ground, lay down support plates in advance to prevent tire sinking.

During lifting operations, first park the equipment firmly and apply the parking brake. Then activate the lifting function. After lifting to the specified height, pause operation and confirm materials are stable before proceeding with subsequent operations. Moving the equipment during lifting is prohibited. Overload lifting of materials exceeding the rated capacity is also prohibited. Non-operating personnel must not approach or climb the equipment.

Daily charging must be performed in a dry and ventilated environment. After turning off the equipment power, connect the dedicated charger. Avoid overcharging or storing with depleted battery. When not in use for extended periods, replenish battery every week to maintain stable battery performance.

Daily maintenance requires regular cleaning of platform and chassis debris, checking hydraulic oil level and timely replenishment of dedicated hydraulic oil. Regularly tighten bolts on all components and check tire wear. When abnormal noise, oil leakage, or slow lifting occurs, immediately stop for inspection. Operation with faults is prohibited.

IV. Product Advantages

Electric Platform Vehicles adopt fully electric drive design, completely replacing traditional manual carts and hydraulic hand trucks. No manual pushing or manual lifting is required throughout the entire process, significantly reducing labor intensity. A single person can complete heavy object transfer and lifting operations, saving labor costs and improving material handling efficiency.

Equipment operation is simple and flexible with small turning radius and strong mobility. No professional driving qualification is required. Simple training enables immediate operation. Suitable for workshops, warehouses, and other scenes with narrow space and complex routes. Compared to large transfer equipment like forklifts, it has compact size, convenient passage, and requires no dedicated operation channels, offering more flexible application scenarios.

The whole machine has complete safety configuration with multiple safety protection devices. Operation is stable and reliable, effectively avoiding safety hazards caused by overload, tipping, or misoperation. Hydraulic lifting system is smooth and

stable without impact or shaking, protecting transferred materials from damage. Especially suitable for precision parts and fragile product transfer. Equipment has powerful drive and strong endurance. One full charge can meet full-day high-intensity operation needs. Battery has long service life and low replacement cost.

The whole machine structure is sturdy and durable. Core components are wear-resistant and robust, capable of adapting to 24 hours of continuous operation with extremely low failure rate. Compared to fuel-powered transfer equipment, Electric Platform Vehicles have zero exhaust emissions and low operation noise, are environmentally friendly and pollution-free. Suitable for use in enclosed environments such as indoors, dust-free workshops, and warehouses without affecting the working environment or product quality. Maintenance is simple without complex maintenance procedures. Daily needs only simple cleaning and routine inspection. Overall operating cost is much lower than large handling equipment with outstanding cost performance.

V. Applicable Industries

With its flexible, efficient, safe and environmentally friendly characteristics, Electric Platform Vehicles are widely applicable to various industry scenarios requiring short-distance material transfer, aerial lifting operations, and workshop assembly line support. Covering light industry, heavy industry, warehousing logistics, commercial services, and many other fields.

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