

Electric Retrofit Solutions

for Upper-Structure Systems of Concrete Mixer Trucks



Lower TCO & Faster Payback

Reduces fuel consumption by up to 30%, extends engine-off time, and lowers maintenance needs, cutting total cost of ownership, and the payback period is approx. 12 months at the fastest.

Highly Integrated System

The battery system, drive motor controller, generator controller, vehicle VCU, cooling system, air conditioning system, and DC-DC converter are highly integrated within the power cabin, simplifying installation and retrofit and enabling easier maintenance and fleet management.

More Stable and Reliable

Main components are designed to meet strict automotive-grade standards, tested under rigorous and complex working conditions to ensure long-term stability and reliability.

Wide Compatibility

Designed to work seamlessly with existing vehicle chassis, minimizing modification and downtime during installation. Compatible with conventional hydraulic rescue systems, allowing quick response without removing the drive motor.

Lighter and More Efficient

Weighing 260 kg in total—only about 90 kg heavier than the conventional hydraulic system—without affecting vehicle payload.

Smarter Fleet Management

Tracks vehicle operating status, supports preventive maintenance, records driver performance, and eliminates the need for on-site maintenance, improving overall vehicle utilization and optimizing fleet efficiency.

Greener Footprint

Up to 30% lower carbon emissions, reduced noise, and less dust through extended engine-off operation, supporting cleaner, more sustainable jobsite operations.

Enhanced On-Site Comfort & Performance

Reduces noise and enables fuel-free, efficient air conditioning, even in scorching summers, while providing stronger acceleration and hill-climbing through the decoupled drive motor and engine for an enhanced driving experience.

Technical Specifications for Key Components

Drive Motor (w. Reducer)

Motor Type	Axial-Flux PMSM Motor
Rated / Peak Power	23.5 kW / 37 kW
Rated / Peak Speed	800 rpm / 2,000 rpm
Rated / Peak Torque	300 Nm / 520 Nm
Rated Voltage	144 VDC (Matched to the Power Battery)
Ingress Rating	IP68
Dimensions	351 x 274 x 358 mm
Weight	34 kg (w. reducer)

Drive Motor Controller

Rated Voltage	100 VAC / 144 VDC
Rated / Peak Power	36 kW / 60 kW
Rated / Peak Output Current	250 Arms / 420 Arms (60 s)
Max. Efficiency	≥98%
Ingress Rating	IP67
Dimensions	355 x 296 x 94 mm
Weight	7.5 kg

Generator

Motor Type	Axial-Flux PMSM Motor
Rated / Peak Power	20 kW / 30 kW
Rated / Peak Speed	1,600 rpm / 2,800 rpm
Rated / Peak Torque	120 Nm / 320 Nm
Rated Voltage	144 VDC (Matched to the Power Battery)
Ingress Rating	IP68
Dimensions	353 x 146 x 410 mm
Weight	39 kg

Generator Controller

Rated Voltage	100 VAC / 144 VDC
Rated / Peak Power	25 kW / 56 kW
Rated / Peak Output Current	180 Arms / 450 Arms (60 s)
Max. Efficiency	≥98%
Ingress Rating	IP67
Dimensions	267 x 210 x 121 mm
Weight	4 kg

Battery System

Rated Voltage	146 VDC
Sing Cell Voltage Operating Range	3.65 V
Rated Capacity	55 Ah
Rated Energy	8.03 kWh
Operating Temperature	-20°C to 60°C
Thermal Management	Liquid Cooling with Heating Film
Ingress Rating	IP67
Dimensions	705 x 515 x 250 mm

All data are based on ROYPOW standard test procedures, actual performance may vary according to local conditions.