

# SPARTAN-@

Leading Railcar Mobility Since 1948



Over 25,000 lbf. of Tractive Effort

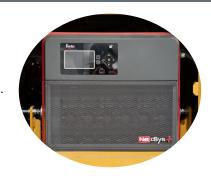
# INNOVATIVE RELIABLE EFFICIENT

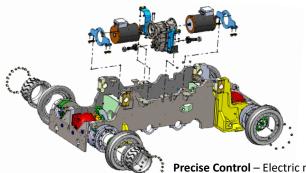
## Environmental & Efficiency Benefits

Zero Emissions – No exhaust fumes, making it eco-friendly and ideal for indoor or enclosed spaces.

Lower Noise Levels - Significantly quieter than diesel, reducing noise pollution and improving operator comfort.

Energy Efficiency – Electric motors convert more energy into movement rather than waste heat.





#### Operational & Performance Advantages

Instant Torque – Provides immediate power for smooth, controlled starts and stops.

Less Downtime – Wireless charging and fast-charging pure lead batteries reduce wait times.

Precise Control – Electric motors allow for finer speed and torque adjustments for safer and more efficient maneuvering.

No Fuel Storage Needed – Eliminates the need for on-site diesel storage, reducing logistics complexity.

## Cost Savings & Maintenance

Lower Operating Costs – Electricity is often cheaper than diesel fuel over time.

Reduced Maintenance - No engine oil changes, fuel filters, or exhaust system upkeep.

Longer Lifespan – Electric motors and pure lead batteries offer durability and reliability.





# Pure Lead Battery Benefits

Fast Charging – Charges significantly faster than traditional lead-acid batteries, reducing downtime.

High Cycle Life – More charge/discharge cycles than standard lead-acid, leading to longer operational life.

**Temperature Resilience** – Performs well in extreme temperatures without risk of freezing or overheating.

Maintenance-Free – No need for watering or extensive upkeep like conventional lead-acid batteries.



# Wireless Charging Advantages (Optional)

**Seamless Operation** – No cables or manual connections, reducing wear and tear on charging components.

**Opportunity Charging** – Allows for quick top-ups during breaks, extending daily operational time.

Increased Safety – No risk of sparks or electrical shorts from plug-in charging.

