

100% Electric On-Highway Truck



WESTERN STAR 4900
POWERED BY





A Bulletproof BEV Powertrain

MEDATech's ALTDRIIVE technology has been powering heavy-duty industrial equipment, notably in the mining sector, for over 10 years. Our vehicles are built to help organizations lower CO2 emissions and environmental footprints while promoting health and safety. Our batteries are certified conflict mineral-free and are over 90 per cent recyclable.

ALTDRIIVE powertrains are ideal for any kind of vocational truck fleet: municipal, quarry and other purposes. In 2021, Teck Resources began its move to battery-electric hauling for its Highland Valley Copper mine fleet, at the head of a worldwide trend that dovetails with current ESG mandates.

A clear return on investment

Battery-electric vehicles (BEVs) are much less expensive to run than diesel equipment. With fewer moving parts and regenerative braking, electric drivetrains require much less maintenance than diesels. They are designed to last twice as long. In a lifetime-cost comparison, when used in an appropriate application, ALTDRIIVE battery-electric clearly wins out over diesel in terms of fuel, maintenance, capital cost and CO2 tax credits.

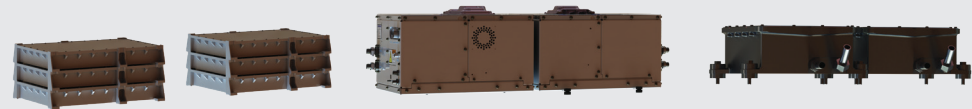


Our Technology, Adapted for Concentrate Hauling

The Western Star on-road 4900EX tractor is fitted with a 100% electric MEDATech ALTDRIVE powertrain solution, including integrated on-board charging system. It was specified for the copper-concentrate haul cycle at Teck Resources' Highland Valley Copper project. To discover this truck's suitability for the duty cycles you require, please contact us.

Additionally, MEDATech solves:

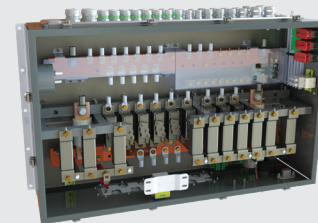
- Temperature Management
- Cab HVAC
- Off-Board Fast Charging Stations
- Auxiliary Hydraulics
- Vehicle Control (VMU)
- EV Software



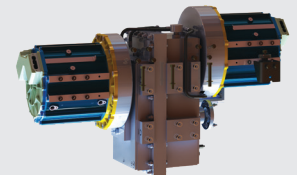
Chargers

Chillers

DC/DC



HV Power
Distribution Unit



Motors and
Gearbox

Electric Powertrain Specifications



Motors	2 TM4 Sumo HP electric motors
Power	720kW continuous / 940kW peak
Torque	3732 Nm continuous / 4910 Nm peak

Transmissions	MEDATech 2-Speed Transfer Case
----------------------	--------------------------------

Batteries	
Onboard Energy	388kWh (310kWh usable at 80% DOD)
Power Output	776kW (1040 horsepower) continuous power discharge
Power Input	150 kW continuous power charging
Cycle Life	4000 cycle life (0.3C@80%DOD) – depending on usage

Options	
Option 1	2-speed gearbox for high-speed application (100 km/h) - Selected
Option 2	Supplemental battery pack (increase total onboard energy to 388.5kWh) - Selected

Range*	
Loaded	0% grade at 100 km/h: 96 km, 2% grade at 89 km/h: 42 km, 5% grade at 55 km/h: 22 km, 10% grade at 31 km/h: 13 km
Unloaded	0% grade at 100 km/h: 157 km, 2% grade at 100 km/h: 89 km, 5% grade at 96 km/h: 53 km, 20% grade at 44 km/h: 18 km

Charging Details**	
Onboard Charger	150 kW
Charge Time (10%-90%)	310 kWh @ 150 kW = 2 h
Charging Infrastructure Required	600 VAC 50-60 hz

Options	
Option 1	Additional 50kW onboard charging
Option 1 Charge Time (0%-100%)	310kWh @ 200 kW = 1.55 h

CO2 Emissions	0 grams/km
----------------------	------------

* Range may vary depending on variables such as ambient temperature, driving style, loading, etc.

** Charging time may vary depending on vehicle climatization, other active electric loads in the vehicle, and ambient temperature.

General Truck Specifications



Make	Western Star
Model	4900EX Set Forward Axle Tractor
M/Y	2022
Curb Weight	55,000 lbs
Gross Combination Weight	143,000 lbs
Wheelbase	220 in
Cab	132-inch BBC Galvanealed Steel Severe Service Cab Roof Mounted Air Conditioner Premium High Back Air Suspension Driver Seat 2-Piece Roped-In Heated Windshield Stainless Steel Exterior Sunvisor
Frame Rails	3/8X3-7/8X11-5/8 in. Steel Frame 120 KSI Heavy Duty Front & Rear Crossmembers
Front Axle	Detroit DA-F-23.0-5 23,000 cap.
Front Suspension	16,000 lbs Taper Leaf w/Shock Absorbers
Rear Axle	D46-590P 46,000 cap. Tandem Axle
Rear Suspension	46,000 lbs Airliner Air Suspension w/Shock Absorbers
Brake System	Front & Rear Bendix Air Disc Brakes; Optional Additional Telma Electromagnetic Brake to Increase Safety and Braking Capacity During Downhill Haul
Fifth Wheel	JOST JSK37 Series 24.0-inch Air Slide No -tilt Fifth Wheel
Wheels and Tires	Front: Alcoa 22.5X9.00 Aluminum Disc Wheel Michelin XZ-3 425/65R22.5 20-Ply Radial Tires Rear: Alcoa 22.5X8.25 Aluminum Disc Wheel Michelin XDS2 11R22.5 16-Ply Radial Tires

Note: Photo provided for illustrative purposes only; final product won't include fuel tanks, exhaust stacks, air filters, etc.



NOT SURE WHETHER TO ELECTRIFY?

WE CAN GIVE YOU THE ANSWER.

MEDATech Fleet Feasibility Studies Give Clarity in \$/Tonne and ROI

As the go-to for EV-powered heavy equipment, MEDATech knows how to calculate vehicle electrification feasibility. It starts with mapping out vehicle duty cycles. It finishes with an electrical architecture tailored to your operation and a complete breakdown of emission reductions, costs and savings over time, including tax benefits.

Serving customers worldwide



MEDATech Head Office

35 Sanford Fleming Dr.
Collingwood, ON L9Y 5A6

1(705) 443-8440 | sales@medatech.ca

medatech.ca

MEDATECH
ALTDRIVE

