



You can rely on us to find a solution
adapted to your environment



500ZE

LITHIUM POWERED
COMPACT SWEEPER


Green Machines 500ze
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the first lithium-powered street sweeper with zero emissions

10 hour runtime + 4 hour charge time

no emissions + low dust & noise

Low operation cost

The 500ze delivers excellent performance at a fraction of the cost of traditional diesel powered units. No engine maintenance allows maintenance periods to be extended.

First class construction

Long-term reliability and lower cost of ownership by utilizing non-corroding materials, all painted components are powder coated for maximum adhesion and protection.

Zero emissions

The “Greenest” Green Machine to date. Lithium Ion technology enable the unit to operate full time for an entire 10 hour shift without any engine related CO2 emissions



sweeper highlights

<p>Zero emissions</p> <p>Zero emission battery power</p> <p>Battery Pack</p> <p>Extremely Quiet:</p> <ul style="list-style-type: none">• In Transit (virtually silent): 59 dBA*• In Operation: 68 dBA*• At Operator Ear: 77 dB(a) * at 7 m	<p>Dust containment</p> <ul style="list-style-type: none">• CloudMaker™ technology• 3 Stage dust filtration• Side entry cyclone swirl plate• Stainless steel filter screens• Twin Cyclones• Traditional dust suppression system
<p>Operator comfort</p> <ul style="list-style-type: none">• Power Reserve Technology• Low noise level• Radio/CD with MP3/Bluetooth• Rear View Camera/Monitor• Premium Seat• Drive Safely Interlock• Heated windshield• Tubular aluminum cage surrounds operator compartment	<p>Ease of use</p> <ul style="list-style-type: none">• One button operation• Excellent visibility• Front wheel steering• Sweeping path width & brush pressure• adjustment from inside the cab• Suction nozzle flap / Lift
<p>Durability</p> <ul style="list-style-type: none">• Corrosion resistant construction: aluminum, stainless steel, premium paint finish• 10 year corrosion warranty on frame• Abrasion resistant hopper liner• 4 wheel suspension• LED tail and work lights	<p>Low maintenance</p> <ul style="list-style-type: none">• Tilt forward cab• No diesel engine maintenance• Fewer moving parts• Excellent access to components• AC brushless IP65 sealed motors (IP =• International or Ingress Protection: dust “6” & water jet “5”)
<p>Sustainability</p> <ul style="list-style-type: none">• No engine related CO2 emissions• Quiet operation, as low as 59 d(BA) “Off-Peak” power use for charging• Designed for Recycleability• CloudMaker™ reduces H2O usage 70%• No engine oil to discard• Biodegradable Hydraulic Oil	<p>Cost of ownership</p> <ul style="list-style-type: none">• Less expensive to operate than traditional diesel powered offerings• Longer intervals between service PMs

low cost of ownership



Get the most from your operations and maintenance budget.

■ **No more engine maintenance**

With its oil and air filter changes and hazardous waste disposal (every 200-250 hours). Service intervals extended to every 450 hours.

■ **Critical components are constructed from materials to resist the impact of corrosion.**

For example, aluminium, stainless steel & other non-corrosive materials are used extensively. 95% of the material is recyclable at end of life.

■ **Sealed electric motors built to IP65 standards**

keeps dust and water contamination out of the motors for long service life and low cost of ownership.

■ **Extended component life and high performance**

Features a 12 Blade Stainless Steel Fan that spins up to 2800 rpm. The fan runs clean for long life and consistent performance because it is located “downstream” from the hopper.

DIESEL VS GREEN MACHINE MAINTENANCE COSTS

Specifications	Diesel sweeper	GM electric 500ze
Operation hours p.a.	1500	1500
Total lifetime in years	7	14
Total working hours	10,500	21,000
Maintenance/energy costs p/a	\$24,053	\$1,007
Maintenance/energy costs over life	\$168,371	\$15,105
Fuel/maintenance savings over life		\$321,637

performance



User friendly

Simplify operation with fool-proof controls and panoramic view form inside the cabin

When the unit is turned from Transport mode to Sweeping mode, the unit automatically switches the maximum speed to the sweeping speed: 12 km/h.



Dust control

The 3-stage dust control system coupled with the traditional water system and the CloudMaker™ enable effective dust control with extremely reduced water consumption (70% less water than conventional methods)

Each successive stage knocks down dust particles creating an effective containment mechanism.



Durability

Critical components are constructed out of materials to resist the impact of corrosion. For example, aluminium, stainless steel and other non- corrosive materials are used extensively.

The premium powder coat finish provides additional protection from weathering as well as creating an attractive look.



sustainability



■ **Conserves Water**

The CloudMaker™ conserves water used in dust control by reducing the amount of water by as much as 70%.

■ **Extends Equipment Life**

a combination of robust design and quality manufacturing means that Green Machine equipment has a long life. This enables the unit to be refurbished when “other” products are at the end of their useful life and need to be replaced.

■ **Enables Off-Peak Power Consumption**

the low noise level, effective cleaning and overall appeal of the unit allows it to be used during the day and charged at night, when the rates are lower making for a more effective and efficient use of electrical power.



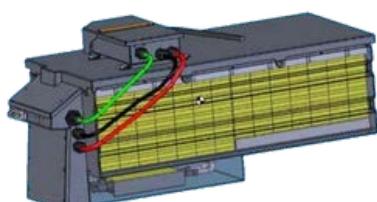
■ **Recycles/Reuses Energy**

regenerative braking returns energy back into batteries for reuse. Bio-degradable fluids – are used for both the steering system and hydraulics.



■ **Cell technology**

Only need to replace one of the 46 individual cells when required meaning the li-ion battery itself lasts for entire life-cycle



lithium-ion battery specifications

Power output (kWh):	59
Number of Cells:	46
Battery endurance:	Up to 10 hours

operator environment

Operate safely in crowded spaces with an ergonomic layout of controls and intuitive operation that enables the operator to confidently operate the machine.

- Reduced back strain and fatigue allows the operator to run a complete shift comfortably with a fully Adjustable Premium Comfort Suspension Seat with the standard seat belt.
- Energy Reserve Technology sets aside energy for returning to base along with timely operator alerts on remaining energy.
- Operate in a secure, comfortable and enclosed environment where the sound level is just 77 dB(a) at the operator's ear.
- Visibility is a primary consideration in both safety and effective performance. With panoramic views of the work area EVERYTHING is visible for the operator.
- New and improved military grade air-conditioning, colour reversing camera and radio player allows full operator control of their working environment

The MD3 IQAN system

Provides constant monitoring of critical functions and reporting to the operator and service engineers the operating history and system conditions.

- o Battery energy levels and condition
- o Service warnings
- o Trouble shooting assistance
- o “Safe Home” info and status
- o Vehicle operating conditions like:
- o Provide for fully intuitive maintenance and insight into problem solving rather than having to take things apart before you have a clue what is wrong.



ease of maintenance

Providing access and easy maintenance of components as the unit opens up completely. Access panels swing open, the water tank swings out, the hopper lifts open and the cab tilts wide open.

Basic service intervals move from 250 hours (Engine powered units) to 450 hours.

On-board technology Maintenance is made easier through the use of the MD3 IQAN system provides constant monitoring of critical functions and reporting to the operator and service engineers the operating history and system conditions.



Easy to access and maintain

Excellent access to electric motors, suspension and cabling made possible by the quick removal battery system. Batteries can be removed in 5 minutes or less with the use of a pallet truck. For ease of movement mobile battery stands are available.



Service intervals extended

Central greasing system provides the lubrication points with a small amount of grease which is delivered at regular intervals to ensure a lubricant film is always maintained. This minimises friction and wear and extending the time between servicing (450 hrs).



**Hopper size**

1m3

**Water tank**

121 Liters

**Noise level**Sound output
68 dB(A)**Battery time**Single battery: 5 hours
Double battery: 10 hours**Sweeping width**Minimum: 1,300mm
Maximum: 1,900mm**Recharge time**Single phase: 7 hours
Three phase: 4 hours

All measurements in millimetres

Outline Specification Green Machine 500ze

Power: Lithium ion battery **Brush diameter:** 650 mm

Length: 3,300mm (inc brushes) **Brush speed:** Up to 2700 rpm

Width: 1,200 mm **Driving speed:** 25km/h

Height: 1,980 mm **Sweeping speed:** 0-12 km/h

Weight (lite): 2325 kg **Water tank:** 121 litres

Weight (plus): 2670 kg

Hopper voided volume: 1 m3

Coverage: 40,000 m2/hr