

Fully Electric Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

The ALL-NEW E-EX 350 FULLY ELECTRIC EXCAVATOR represents a paradigm shift in heavy material handling. Engineered for urban construction sites, underground mining, and agricultural land development, this machine eliminates diesel particulate matter and CO2 emissions while delivering 98% torque availability from 0 RPM. With a class-leading 350 kWh lithium-iron-phosphate (LFP) battery pack, the E-EX 350 sustains full shift operation under heavy digging cycles, rechargeable in 90 minutes via dual CCS2 connectors.

For fleet owners facing tightening emissions regulations in the EU, North America, and China, the E-EX 350 offers total cost of ownership parity within 18 months of operation. Regenerative hydraulic systems recover energy during boom-down and swing-brake events, extending cycle-based range by up to 23%. Purpose-built from the ground up (not a diesel retrofit), this machine carries the same structural durability as our diesel flagship with a silent, vibration-damped electric architecture.



STRUCTURAL INTEGRITY & POWERTRAIN

Chassis and undercarriage utilize QSTE960 HIGH-STRENGTH STEEL (yield strength 960 MPa) with 25% thicker track frame plating compared to standard excavators. Alloy steel boom and arm feature internal ribbed box sections, tested to 15,000 hours of accelerated fatigue cycles. Track shoes are forged manganese steel with triple heat treatment.

POWERTRAIN: Two liquid-cooled permanent magnet synchronous motors (PMSMs) drive independent left and right hydraulic pumps. Peak motor output: 280 kW (continuous 220 kW). Maximum motor torque: 1,850 Nm. Inverter switching frequency 8 kHz with SiC MOSFETs for 98.3% drivetrain efficiency.

HYDRAULIC SYSTEM: Electro-hydraulic closed-center load-sensing system with

variable displacement axial piston pumps. Maximum main pump flow: 2 x 250 L/min at 2,200 rpm (equivalent). Pilot pressure: 35 bar. System relief pressure: 34.3 MPa (350 bar). Hydraulic oil tank capacity: 180 L.

KEY FEATURES & OPERATOR COMFORT

- SMART ENERGY MANAGEMENT SYSTEM: 12-inch touchscreen displays real-time SOC (State of Charge), estimated remaining cycle time, and regenerative energy capture. Three selectable power modes (Eco, Standard, Heavy) adjust pump displacement and swing torque. Auto-shutdown after 15 minutes of inactivity preserves battery.

- ROPS/FOPS LEVEL-2 CERTIFIED CAB: Roll-over and falling object protective structure tested to ISO 12117-2:2008. Sealed and pressurized cab with HEPA filtration maintains positive pressure. Multi-adjustable air suspension seat with heating and optional cooling. Cab interior noise level 71 dB(A) at operator's ear (8-10 dB quieter than diesel equivalents).

- 360-DEGREE OBJECT DETECTION SYSTEM: Four panoramic cameras with AI-powered visual alerts and proximity radar (detection range up to 8 meters). Rear-view and right-side monitors automatically activate when travel lever engaged. Includes auto-brake function when obstacle detected within 2 meters

during swing.

- THERMAL MANAGEMENT FOR BATTERY & HYDRAULICS: Independent liquid cooling/heating circuit maintains battery temperature between 15°C to 35°C for optimal performance. Cooling fan speed variable controlled by hydraulic oil temperature sensor. Operable ambient range: -25°C to +50°C (cold weather package optional down to -35°C).

- TELEMATICS & REMOTE DIAGNOSTICS: Integrated 4G/Wi-Fi module transmits vibration, temperature, and power consumption data to fleet management portal. Predictive maintenance alerts for hydraulic filter, battery cell imbalance, and coolant levels. OTA (Over-The-Air) software updates for control algorithms.

COMPLIANCE & SAFETY STANDARDS

CE MARKING (EU Machinery Directive 2006/42/EC) with electromagnetic compatibility (EMC) compliance to EN 13309:2010. Meets ISO 10265:2008 for earth-moving machinery electrical safety. Battery pack UN38.3 certified for transport and IEC 62660-2 for vibration and shock. ISO 9001:2015 certified manufacturing facility.

SAFETY FEATURES: Automatic high-voltage interlock loop (HVIL) shuts down

traction power within 50ms of cab door opening or emergency stop activation. Service disconnect manual breaker handle located at ground level behind lockable panel. Insulation monitoring device (IMD) alerts operator if insulation resistance falls below 500 ohms/volt. All high-voltage cables colored ORANGE with reinforced M12 connectors. Battery enclosure IP67 rated (temporary submersion up to 1 meter).

TECHNICAL SPECIFICATIONS

The following parameters are based on machine with standard 2.2 m³ bucket, full fuel equivalent battery charge, and operator (75 kg). All values are in accordance with ISO 6016 for mass measurements and ISO 14397 for tipping loads.

Parameter	Specification
Battery Type	LFP (Lithium Iron Phosphate)
Total Battery Capacity	350 kWh (usable 315

kWh)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Operating Weight</td><td style='padding: 8px; border: 1px solid #ddd;'>34,800 kg (76,720 lbs)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>B</td><td style='padding: 8px; border: 1px solid #ddd;'>u</td><td style='padding: 8px; border: 1px solid #ddd;'>c</td><td style='padding: 8px; border: 1px solid #ddd;'>k</td><td style='padding: 8px; border: 1px solid #ddd;'>e</td><td style='padding: 8px; border: 1px solid #ddd;'>t</td><td style='padding: 8px; border: 1px solid #ddd;'> </td><td style='padding: 8px; border: 1px solid #ddd;'>C</td><td style='padding: 8px; border: 1px solid #ddd;'>a</td><td style='padding: 8px; border: 1px solid #ddd;'>p</td><td style='padding: 8px; border: 1px solid #ddd;'>a</td><td style='padding: 8px; border: 1px solid #ddd;'>c</td><td style='padding: 8px; border: 1px solid #ddd;'>i</td><td style='padding: 8px; border: 1px solid #ddd;'>t</td><td style='padding: 8px; border: 1px solid #ddd;'>y</td><td style='padding: 8px; border: 1px solid #ddd;'> </td><td style='padding: 8px; border: 1px solid #ddd;'>(</td><td style='padding: 8px; border: 1px solid #ddd;'>S</td><td style='padding: 8px; border: 1px solid #ddd;'>t</td><td style='padding: 8px; border: 1px solid #ddd;'>a</td><td style='padding: 8px; border: 1px solid #ddd;'>n</td><td style='padding: 8px; border: 1px solid #ddd;'>d</td><td style='padding: 8px; border: 1px solid #ddd;'>a</td><td style='padding: 8px; border: 1px solid #ddd;'>r</td><td style='padding: 8px; border: 1px solid #ddd;'>d</td><td style='padding: 8px; border: 1px solid

Speed	10.2 rpm
Travel Speed (High/Low)	5.1 / 3.2 km/h (3.2 / 2.0 mph)
Gradeability	35° (70%)
Ground Pressure	52.3 kPa (7.6 psi)
Hydraulic System Pressure	34.3 MPa (350 bar)
Battery Charge Time (CCS2 150 kW)	90 minutes (20% to 95%)
Operating Hours per Charge	6-8 hours (heavy digging)
Track Shoe Width	600 mm (24 in)