Long Reach Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

The new Long Reach Excavator series is a paradigm shift in heavy equipment engineering, designed to meet the escalating demands of complex, large-scale infrastructure projects. Strategically positioned for the construction, mining, and agricultural sectors, this machine delivers superior capabilities for tasks such as deep foundation digging, canal and waterway maintenance, dredging, and high-slope landscaping. By extending the operational envelope far beyond standard excavators, it transforms operational efficiency, reducing the need for frequent machine repositioning and accelerating project timelines in challenging terrains.

This equipment is the definitive answer to the market's need for a solution that combines extreme reach with uncompromised power. It offers a primary value proposition of reduced operational costs through enhanced fuel efficiency and lower maintenance intervals, coupled with increased productivity via advanced hydraulic systems and a stable, durable platform. The Long Reach Excavator is not merely a machine; it is a strategic asset that empowers operators to achieve 'higher, deeper, and farther' with superior control and safety.

STRUCTURAL INTEGRITY & POWERTRAIN

At the core of the Long Reach Excavator's robust design is a high-tensile, heavy-duty steel chassis, engineered to withstand the immense torsional stresses generated during long-reach operations. The undercarriage and main frame are constructed from premium-grade steel, providing an exceptionally rigid platform that ensures stability and durability even under the most severe load cycles. To enhance stability during extended reach operations, the undercarriage features a longer track frame and a significantly heavier counterweight, which also minimizes vibration and improves digging force transfer.

The powertrain is anchored by a high-performance, fuel-efficient diesel engine, such as the industry-renowned Cat C18 or comparable Isuzu models, which

deliver robust horsepower and torque while adhering to stringent emission regulations. This engine is paired with an advanced, electronically controlled hydraulic system that optimizes power distribution for maximum digging force and efficient cycle times. The system's efficiency is further enhanced by features like Spool Stroke Control and load-sensing hydraulics, which precisely match flow and pressure to the task, ensuring smooth, responsive control and significant fuel savings.

KEY FEATURES & OPERATOR COMFORT

- Extended Reach Configuration: A purpose-built front attachment, featuring a super-long boom and stick, provides unmatched reach at ground level (up to 91 feet) and maximum digging depth (over 71 feet) for accessing and excavating areas beyond the scope of standard machines.
- Advanced Hydraulic System: The machine utilizes an electronically controlled hydraulic pump system with a closed-center load sensing valve, ensuring precise control over digging forces and attachment movements. This system, combined with multiple selectable work modes (e.g., Power, Eco, Lift), optimizes fuel consumption by 3-5% while maintaining peak performance.
- ROPS/FOPS Certified Cab: The operator's cab is certified to meet ROPS (Roll Over Protective Structure) and FOPS (Falling Object Protective Structure) standards, ensuring a safe working environment. The cab is designed with enhanced legroom, a heated high-back air suspension seat, and a large,

high-definition 10-inch LCD monitor with anti-glare coating. The display provides customizable machine information, hydraulic attachment status, and real-time camera feeds for enhanced situational awareness.

- Smart Control & Precision: Standard or optional grade control systems (2D/3D) and E-fence technology enhance operational precision and safety. These systems allow operators to predefine work areas and automatically control the front linkage, preventing over-excavation and protecting the machine from potential damage. Payload management systems are also available for efficient material handling.

- Enhanced Visibility & Safety: A comprehensive camera system (up to 360-degree visibility) provides the operator with a panoramic view of the machine's surroundings, eliminating blind spots and improving site safety. Additional features like waterproofed sensor boxes allow for the continued use of these advanced technologies during underwater tasks, such as dredging and waterway maintenance.

COMPLIANCE & SAFETY STANDARDS

The Long Reach Excavator series is engineered and manufactured to comply with the most rigorous global safety and environmental standards. This includes full certification according to CE (European Conformity) and meets U.S. EPA Tier 4 Final and EU Stage V emission standards, underscoring our

commitment to sustainability and regulatory compliance.

Safety is paramount in every aspect of the machine's design. In addition to ROPS/FOPS cab certification, the excavator is equipped with a ground-level secondary engine shutoff switch, multiple emergency stop buttons, and anti-slip maintenance walkways with recessed bolts. The incorporation of Cat 2D E-fence, operator identification systems, and advanced camera technology (KomVision or equivalent) further demonstrates its adherence to ISO 9001 quality management standards and industry best practices for worksite safety.

TECHNICAL SPECIFICATIONS

The following technical specifications are for the Long Reach Excavator, representing a blend of extreme reach capability and high-performance power. Values are indicative of the primary model and may vary based on specific configurations.

<table border='1' style='border-collapse: collapse; width: 100%;'><tr><th style='padding: 8px; text-align: left; background-color: #f2f2f2;'>PARAMETER</th><th style='padding: 8px; text-align: left; background-color: #f2f2f2;'>SPECIFICATION</th></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Engine Model</td><td

style='padding: 8px; border: 1px solid #ddd;'>Cat C18 or Isuzu Equivalent</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Net Power</td><td style='padding: 8px; border: 1px solid #ddd;'>Up to 542 hp (405 kW)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Operating Weight</td><td style='padding: 8px; border: 1px solid #ddd;'>Up to 249,700 lbs (113,300 kg)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Maximum Reach at Ground Level</td><td style='padding: 8px; border: 1px solid #ddd;'>Up to 91 ft (28 m)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Maximum Digging Depth</td><td style='padding: 8px; border: 1px solid #ddd;'>Up to 71 ft (21.7 m)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Engine Emission Standard</td><td style='padding: 8px; border: 1px solid #ddd;'>U.S. EPA Tier 4 Final / EU Stage V</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Hydraulic System</td><td style='padding: 8px; border: 1px solid #ddd;'>Electronically Controlled Load Sensing</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Cab Safety Standard</td><td style='padding: 8px; border: 1px solid #ddd;'>ROPS & FOPS Certified</td></tr></table>