

## Heavy Excavator - Official Technical Overview & Datasheet

### EXECUTIVE SUMMARY

Engineered for the most demanding extraction and earthmoving operations, the Heavy Excavator represents a paradigm shift in heavy machinery performance. Designed to bridge the gap between standard large excavators and ultra-class mining shovels, this model is purpose-built for rigorous applications in quarrying, large-scale infrastructure, and surface mining. We have prioritized structural durability and hydraulic intelligence to deliver a machine that offers exceptional material handling capabilities while maintaining optimal fuel economy, ensuring a rapid return on investment for fleet operators.

Positioned as the flagship model in our heavy lineup, this excavator is tailored for environments where uptime is critical and operating costs must be meticulously managed. Whether it is loading haul trucks in a copper mine, excavating foundations for high-rise buildings, or undertaking major agricultural land development projects, the Heavy Excavator provides the brute force and finesse required. The machine's architecture reflects decades of engineering expertise, offering a seamless blend of power, precision, and unparalleled serviceability to meet the escalating demands of the modern jobsite.



## STRUCTURAL INTEGRITY & POWERTRAIN

The Heavy Excavator is built upon a robust, high-tensile steel chassis utilizing ASTM A514 grade material, offering exceptional resistance to torsional stress and impact damage in severe applications. The reinforced X-frame undercarriage is engineered with track chain links featuring induction-hardened bushings and rollers, extending wear life by up to 15% compared to conventional designs. This structural foundation ensures the machine maintains rigidity and stability even when exerting maximum crowd forces.

At the heart of the powertrain lies a high-performance, electronically controlled diesel engine, featuring a Heavy-Duty series unit with a 1,900 rpm rated speed.

Compliant with EPA Tier 4 Final and EU Stage V emission regulations, the engine utilizes advanced common-rail fuel injection and a selective catalytic reduction (SCR) system to minimize environmental impact while delivering high torque rise. The hydraulics feature an advanced closed-center load-sensing hydraulic system with a variable displacement piston pump. This system intelligently adjusts flow and pressure to match the workload, minimizing parasitic losses and reducing cycle times by up to 8%.

#### KEY FEATURES & OPERATOR COMFORT

##### - ADVANCED LOAD-SENSING HYDRAULICS WITH ADAPTIVE FLOW CONTROL:

The system employs an advanced pressure-compensated valve arrangement that optimizes pump stroke based on real-time lever input. The Independent Metering Valves (IMV) technology allows for simultaneous, smooth operation of boom, arm, and bucket functions without flow interference, ensuring precise modulation for delicate grading or rapid mass excavation.

- REINFORCED ROPS/FOPS CAB WITH HIGH-VISIBILITY COCKPIT: The sealed, pressurized cab is certified to ISO 12117-2 standards, featuring a falling-object protective structure (FOPS) that meets the requirements for heavy forestry and mining debris. The cab utilizes a one-piece, laminated curved glass front and an expansive roof window to deliver a 360-degree view, maximizing operator awareness of the work area and surrounding ground personnel.

- NEXT-GENERATION HMI & TELEMATICS SUITE: The operator interface is

centered around a high-resolution, sunlight-readable digital display. It provides real-time data on fuel consumption, hydraulic temperatures, filter status, and machine health. The integrated telematics system enables remote diagnostics, fleet tracking, and geo-fencing, sending proactive maintenance alerts directly to the site manager's mobile device.

- **AUTOMATIC LUBRICATION & SERVICE ACCESS:** To reduce daily maintenance downtime, the excavator comes pre-fitted with a central automatic greasing system that delivers precise amounts of lubricant to all pivotal attachment points at programmed intervals. The servicing strategy features grouped filter banks and a remote grease point housing located at ground level, reducing routine service times to under 20 minutes.

- **SHOCK-LOAD PROTECTION & SWING CUSHION:** The undercarriage incorporates a swing pivot bearing with enhanced shaft support and hydraulic cushioning at the end of rotation. This effectively absorbs shock loads generated by heavy truck loading, protecting the slewing ring and reducing the risk of structural cracking in heavy clay and boulder environments.

## COMPLIANCE & SAFETY STANDARDS

This product is manufactured under a rigorous quality management system certified to ISO 9001:2015. It fully complies with the stringent emission mandates of the U.S. EPA Tier 4 Final and EU Stage V regulations. The structural

integrity and braking performance comply with ASME B30.5 and ISO 10265 standards for mobile crane and excavator safety. Furthermore, the cab and rollover structures are validated to SAE J1086 and ISO 12117-2 criteria, ensuring operator safety in the event of upset. The machine is CE marked, confirming conformity with all applicable health, safety, and environmental protection standards for the European Economic Area.

## TECHNICAL SPECIFICATIONS

All technical data provided below reflects standard base machine specifications with a standard heavy-duty bucket and counterweight. Variations may occur depending on specific attachment configurations and track shoe selection. Refer to the OEM technical handbook for customized application settings and derating factors.

Parameter	Specification
Engine Model	Cummins QSK19-C 6-Cylinder Diesel

Flywheel Power (Gross)	588 kW (789 hp) @ 1,900 rpm
Operating Weight	78,500 kg (173,000 lbs)
Bucket Capacity (SAE Heaped)	5.2 - 7.4 m <sup>3</sup> (6.8 - 9.7 yd <sup>3</sup> )
Max Digging Depth	8,200 mm (26 ft 11 in)
Max Reach at Ground Level	13,100 mm (43 ft 0 in)
Max Breakout Force (SAE)	389 kN (87,500 lbf)
Hydraulic System Pressure	34.3 MPa (4,970 psi)
Fuel Tank Capacity	1,120 L (296 gal)