

MAGNA 5000 Large Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

Engineered for the most demanding bulk excavation and heavy-lifting applications in mining, quarrying, and large-scale infrastructure projects, the new MAGNA 5000 Series Hydraulic Excavator stands as the pinnacle of productivity, durability, and operator-centric design. Targeted specifically at Tier 1 mining contractors and major civil construction firms, this machine delivers a compelling total cost of ownership (TCO) advantage through superior fuel economy and extended component life, significantly reducing cost-per-ton compared to its predecessors and key competitors. The MAGNA 5000 redefines the 50-ton class, offering unparalleled combination of power, precision, and technological integration.

By integrating a next-generation power-dense engine with a revolutionary electro-hydraulic control system, the MAGNA 5000 delivers instantaneous response and exceptional controllability in all working conditions. Its robust design features a high-strength, low-alloy (HSLA) steel monoblock mainframe, engineered to withstand torsional stresses and structural fatigue over 20,000 hours of intensive service. This machine is the ultimate solution for customers who demand relentless performance and absolute reliability, backed by our global dealer network's comprehensive service and support infrastructure.



STRUCTURAL INTEGRITY & POWERTRAIN

MAGNA 5000's chassis and boom are fabricated from premium-grade, high-strength DOMEX steel plates, providing exceptional impact resistance and weld integrity. The X-shaped undercarriage frame is reinforced with multi-layer box sections, ensuring maximum rigidity and durability in the most abrasive environments. The heavy-duty track roller frames are integrated with full-length lower track guards, providing superior track guiding and extended undercarriage component life. The powertrain is centered around a highly reliable, turbocharged ISUZU 6WG1X industrial engine, delivering a brute net power of 370 kW (496 HP) at 1,800 rpm. This engine meets EPA Tier 4 Final and EU Stage V emission standards through a maintenance-free SCR system, eliminating the need for a DPF and ensuring low operating temperatures. The

heart of the machine's productivity is its advanced closed-center load-sensing hydraulic system, operating at 34.3 MPa (4,974 psi), which intelligently directs flow to the boom, arm, and bucket circuits for rapid, powerful cycle times with exceptional fuel efficiency.

KEY FEATURES & OPERATOR COMFORT

- Next-Generation Hydraulic System: The MAGNA 5000's advanced hydraulic system features a variable displacement axial piston pump and a closed-center load-sensing valve. The system employs an intelligent flow-control algorithm that reduces hydraulic losses by up to 15%, providing precise control and significant fuel savings. The independent boom and arm flow regeneration circuits maximize attachment speed and reduce operator fatigue.
- Advanced ROPS/FOPS Cab: The spacious, pressurized cab is ISO 12117-2 certified for Rollover Protective Structure (ROPS) and Falling Object Protective Structure (FOPS), offering a safe and secure working environment. The cab is mounted on high-viscosity viscous dampers, isolating the operator from vibration and shock. The large panoramic glass provides exceptional all-round visibility for improved safety and productivity.
- Smart Control & Telematics: The machine features a high-resolution, multi-function 10-inch color touchscreen display, providing real-time data on machine performance, fuel consumption, and diagnostic information. The integrated telematics system, MAGNA CONNECT, enables remote monitoring

of machine health, location, and operational parameters. Operators can select from four working modes (Power, Standard, Economy, and Attachment) to optimize performance for the specific application.

- Ease of Maintenance and Serviceability: Ground-level, grouped service points with centralized greasing banks, hinged, large-opening engine doors, and an oversized, hydraulically driven cooling fan with auto-reversing function simplifies daily maintenance and extends service intervals. The modular design of the main hydraulic components allows for rapid replacement and reduces downtime.

- Improved Durability and Undercarriage: The heavy-duty, sealed and lubricated track chain with heat-treated track shoes and large-diameter drive sprockets and idlers ensures superior track life in the most severe underfoot conditions. The fully boxed, high-strength steel track frames provide a rigid foundation and protect the final drive from potential damage.

COMPLIANCE & SAFETY STANDARDS

The MAGNA 5000 is designed, manufactured, and tested in accordance with the most rigorous international safety and quality standards. The machine is fully compliant with ISO 9001:2015 for quality management systems and ISO 14001 for environmental management. It meets the stringent emission regulations of EPA Tier 4 Final and EU Stage V, ensuring low environmental

impact and global market compliance. Safety is paramount, with the machine certified to ISO 12117-2 for ROPS/FOPS protection and featuring an advanced secondary steering system, multiple emergency stop switches, and a comprehensive fire suppression system pre-wiring kit. It also complies with the European CE mark and the American ANSI safety standards for mobile construction machinery.

TECHNICAL SPECIFICATIONS

All technical data provided below is measured in compliance with ISO standards. These specifications reflect the base machine with standard equipment and a standard bucket; final figures may vary depending on specific attachment configurations, undercarriage options, and operational conditions.

Parameter	Specification
Engine Model	ISUZU 6WG1X (Turbocharged)
Engine Power (Net)	370 kW (496 HP) @ 1,800

rpm	
Operating Weight	52,500 kg (115,743 lbs)
Maximum Digging Depth	7.5 m (24 ft 7 in)
Maximum Reach at Ground Level	12.0 m (39 ft 4 in)
Maximum Dump Height	6.8 m (22 ft 4 in)
Bucket Capacity (Standard)	3.2 m ³ (4.2 yd ³)
Hydraulic System Pressure (Main)	34.3 MPa (4,974 psi)
Fuel Tank Capacity	650 L (171.7 US gal)
Undercarriage Track Length	4,500 mm (177 in)
Track Shoe Width	600 mm (23.6 in)