40 ton Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

Engineered for maximum production in quarry, mass excavation, and large-scale infrastructure projects, the 40 TON EXCAVATOR sets a new benchmark in the 38,000 kg to 45,000 kg weight class. Designed to bridge the gap between standard construction machines and heavy mining shovels, this unit delivers a superior power-to-weight ratio, ensuring optimal bucket penetration in hard compacted materials (Class A1 to B3) and high-lift capacity for pipe setting or truck loading (matching 30t to 40t rigid dump trucks).

Integrating advanced mechatronics with robust Japanese-European design philosophy, this platform targets project managers prioritizing total cost of ownership (TCO). Leveraging high-efficiency load-sensing hydraulics and a purpose-built diesel engine, the 40 TON EXCAVATOR reduces fuel spend by up to 15% compared to previous generation models while improving cycle times in heavy digging.

STRUCTURAL INTEGRITY & POWERTRAIN

The chassis utilizes high-tensile, low-alloy HG70 and HG785 steel for the boom, arm, and upper frame, achieving a tensile strength of 780 MPa to withstand fatigue from rock digging. The track frame features forged chain links and seven bottom rollers per side (lubricated, sealed), ensuring durability on uneven terrain.

The powertrain is centered around a heavy-duty 6-cylinder turbocharged diesel engine (Cummins X12 or Isuzu 6WG1 equivalent platform), delivering 300 kW (402 HP) at 1,900 rpm. Compliant with STAGE V / EPA Tier 4 Final, it utilizes selective catalytic reduction (SCR) and a diesel particulate filter (DPF) without compromising torque rise. The closed-center hydraulic system features three variable-displacement axial piston pumps, delivering a total flow of 2 x 300

L/min at high pressure (34.3 MPa / 4,980 psi), achieving a high hydraulic efficiency of 88%.

KEY FEATURES & OPERATOR COMFORT

- Heavy-Duty Boom & Arm Geometry: Reinforced with internal diaphragms and cast steel nodes at high-stress pivot points. The boom features a dual-locking valve to prevent drift during heavy lifting, extending component life by 30%.
- ROPS/FOPS Certified Cab: Sealed, pressurized cab with a vibration-damping viscous mount. Sound levels rated at 69 dB(A). Includes a 230mm LCD touch display, tilt-up console, and a high-capacity automatic climate control system.
- Smart Load-Sensing Hydraulics: Advanced AI-assisted hydraulic management system (HIOS IV) automatically adjusts pump flow based on attachment type (bucket, hammer, or shear). Features five work modes: Power, Economy, Lift, Breaker, and Attachment.
- 360-Degree Telematics & Security: Integrated OEM telematics gateway providing real-time tracking, theft deterrence (geo-fencing), fuel theft alerts, and predictive filter replacement warnings accessible via mobile or cloud dashboard.
- Ground-Level Service Access: Centralized remote grease bank, swing-out radiators, and integrated service steps with anti-skid plates. Major service checkpoints (fuel/water separator, air filters, pilot filters) located at ground level.

COMPLIANCE & SAFETY STANDARDS

ISO 9001:2015 certified manufacturing process. Machine CE marked (Machinery Directive 2006/42/EC) and meets ANSI/SAE standards for North America. Safety features include: ISO 10265 (operator protective structure), top guard (ISO 10262 Level II) for falling objects, automatic swing brake, rear-view camera system standard (ISO 14401), and secondary engine shutdown switch (both cab and ground level). Full compliance with EU Stage V and US EPA Tier 4 Final emission norms.

TECHNICAL SPECIFICATIONS

All values are standard reference data based on ISO 9245 / SAE J1263. Weight variations apply depending on attachment configuration (Mass Excavation or General Construction setup).

Parameter	**Specification**
Engine Model	Cummins X12 (6-Cylinder Turbo)
Engine Power (Net)	300 kW (402 HP) @ 1,900 rpm
Operating Weight (General)	41,200 kg (90,800 lbs)
Operating Weight (Mass Excavation)	42,800 kg (94,350 lbs)

Bucket Capacity (ISO heaped)	1.8 - 2.4 m^3 (SAE: 2.4 - 3.1 yd^3)
Max Digging Reach (Ground Level)	11,850 mm (38 ft 10 in)
Max Digging Depth	7,650 mm (25 ft 1 in)
Max Dump Height	7,250 mm (23 ft 9 in)
Swing Speed	9.5 rpm
Traction Force	340 kN (76,435 lbf)
Hydraulic Main Pump Flow	2 x 300 L/min (79.2 gal/min)