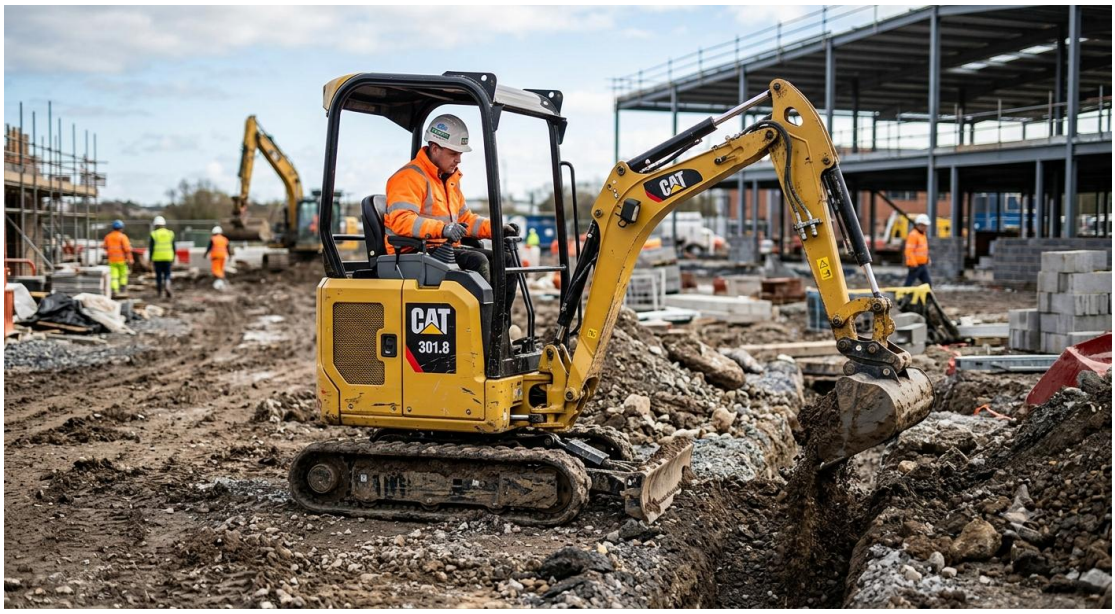
1.8 Ton Digger - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

The 1.8 TON DIGGER represents a paradigm shift in ultra-compound excavation, engineered explicitly for the intersection of raw digging power and spatial agility. Targeting the construction, mining auxiliary, and high-value agricultural sectors, this machine delivers a class-leading 18.5 kN bucket digging force within a sub-1.9m transport width. Operators benefit from zero-tail-swing architecture, enabling safe, productive operation directly against walls, in trenches, and inside building foundations.

Built for 3,000+ hour annual duty cycles, the 1.8T Digger replaces manual labor and larger, less agile machines. Its primary value proposition centers on reduced site preparation costs, minimal ground pressure (under 30 kPa), and the ability to work in environmentally sensitive zones. Whether backfilling pipelines, grading agricultural feedlots, or loading demolition debris, this platform redefines what a sub-2-ton machine can achieve.



STRUCTURAL INTEGRITY & POWERTRAIN

The chassis utilizes DOMEX 700 MC premium-grade steel (700 MPa yield strength) for the main upper frame and track frame, providing a 40% higher fatigue resistance than standard St52-3. Reinforced cross-bracing at the king post and boom foot dissipates impact loads from rock breaking. The welded, one-piece undercarriage incorporates sealed and lubricated triple-flange track rollers for extended rebuild intervals.

At the heart of the powertrain lies a WATER-COOLED, DIRECT-INJECTION DIESEL engine (ISUZU 3LD1 or equivalent Tier 4 Final), producing 14.6 kW (19.6 HP) at 2,400 rpm. The engine meets EPA Tier 4 Final and EU Stage V without a DPF, utilizing a high-efficiency oxidation catalyst. The closed-center, load-sensing hydraulic system delivers 41.5 L/min at 21 MPa system pressure,

diverting flow intelligently to prioritize boom or travel functions. A dedicated auxiliary circuit delivers 32 L/min for hydraulic breakers, augers, or compactors.

KEY FEATURES & OPERATOR COMFORT

- ZERO-TAIL-SWING DESIGN: Rear overhang is exactly zero relative to the track width. Operators can rotate 360 degrees within 1 meter of an obstacle, eliminating counterweight strikes and enabling safe worksite parallel tracking.
- ROPS/FOPS LEVEL II CAB: ISO 3471 and 3449 certified falling object protective structure, combined with laminated front glass and steel mesh top guard. Low-effort joysticks with proportional thumb wheel auxiliary control reduce operator fatigue.
- LOAD-SENSING HYDRAULICS WITH AUTO-IDLE: The piston pump varies flow exactly to demand, reducing fuel burn up to 18% during light digging. When controls are neutral for 5 seconds, engine speed automatically drops to 1,400 rpm.
- 7-INCH SMART CONTROL PANEL: Real-time display of fuel burn, hydraulic oil temperature, maintenance reminders, and two selectable work modes (Power / Economy). Integrated rear camera input standard.
- BOLT-ON BUCKET LINKAGE & DOZER BLADE: Heavy-duty X-shaped bucket pins with through-hardening to 55 HRC. Angled dozer blade (optional tilt function) provides independent hydraulic circuit for backfilling and stabilization.

COMPLIANCE & SAFETY STANDARDS

The 1.8 Ton Digger is fully certified to ISO 9001:2015 manufacturing quality management systems. Machine safety and emissions compliance include: CE Marking (Machinery Directive 2006/42/EC), EPA Tier 4 Final (USA) / EU Stage V (Europe), ROPS/FOPS per ISO 3471 and ISO 3449 (Level II), ISO 10265 (operator protective structure), and ASME B30.5 (mobile hydraulic crane standard for lifting attachment). All hydraulic hoses meet SAE 100R2AT burst pressure requirements with external wire braid shielding. The machine also includes a standard tip-over warning sensor (audible alarm at 5 degrees list) and an emergency engine stop cord at seat height.

TECHNICAL SPECIFICATIONS

The following parameters are measured under ISO 9249 and ISO 6016 standards at rated engine speed, with standard 300 mm rubber tracks and 0.04 m^3 bucket. Machine weight includes full fluids, ROPS/FOPS cab, operator (75 kg), and standard digging bucket.

<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;'>ISUZU 3LD1 (or equivalent) Diesel, Water-cooled</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Net Power</td><td style='padding: 8px; border: 1px solid #ddd;'>14.6 kW (19.6 HP) @ 2,400 rpm</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Operating Weight (Cab)</td><td style='padding: 8px; border: 1px solid #ddd;'>1,780 kg ± 2%</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Bucket Digging Force (ISO)</td><td style='padding: 8px; border: 1px solid #ddd;'>18.5 kN</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Arm Digging Force (ISO)</td><td style='padding: 8px; border: 1px solid #ddd;'>12.1 kN</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Max Digging Depth</td><td style='padding: 8px; border: 1px solid #ddd;'>2,310 mm</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Max Dump Height</td><td style='padding: 8px; border: 1px solid #ddd;'>2,540 mm</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Max Reach at Ground Level</td><td style='padding: 8px; border: 1px solid #ddd;'>3,910 mm</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Tail Swing Radius</td><td style='padding: 8px; border: 1px solid #ddd;'>0 mm (zero tail-swing)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Track Width (Rubber)</td><td

style='padding: 8px; border: 1px solid #ddd;'>300 mm / 1,500 mm overall</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Ground Pressure</td><td style='padding: 8px; border: 1px solid #ddd;'>29.5 kPa</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Hydraulic Flow (Auxiliary)</td><td style='padding: 8px; border: 1px solid #ddd;'>32 L/min @ 21 MPa</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Fuel Tank Capacity</td><td style='padding: 8px; border: 1px solid #ddd;'>22 L</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Swing Speed</td><td style='padding: 8px; border: 1px solid #ddd;'>9.5 rpm</td></tr></table>