

1.2 ton Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

Engineered for the intersection of power and portability, the 1.2 ton Excavator redefines productivity in confined job sites. Targeting the construction rental market, precision agriculture (vineyards/orchards), and interior demolition, this sub-compact machine delivers an impressive 12.8 kN bucket digging force while maintaining a transport-friendly width of just 980 mm. The primary value proposition lies in its ability to replace manual labor in narrow trenches and light foundation work, offering up to 30% faster cycle times compared to traditional backhoe loaders in restricted spaces.

Built upon a heavy-duty X-shaped steel frame, the 1.2 ton Excavator features a certified Tier 4 Final compliant diesel engine and a load-sensing hydraulic system that dynamically adjusts flow. This combination ensures optimal fuel efficiency (as low as 2.1 L/hour) without compromising breakout torque. Whether digging footings in urban construction, clearing livestock pens, or excavating drainage ditches, this platform delivers dealership-backed reliability typically reserved for larger class machines.



STRUCTURAL INTEGRITY & POWERTRAIN

The main chassis is fabricated from high-tensile DOMEX 700 MC steel (yield strength 700 MPa) with a 6 mm thick track frame plate, providing a 25% higher resistance to torsional stress compared to standard SS400 steel. The undercarriage utilizes triple-flange track rollers and a spring-loaded recoil mechanism with 120 mm travel, effectively absorbing shock loads during rock handling. The powertrain is centered around a liquid-cooled, 3-cylinder Isuzu D950 diesel engine (or equivalent Yanmar 3TNV76), producing 11.8 kW (15.8 HP) at 2,300 rpm. This engine meets EPA Tier 4 Final and EU Stage V emissions standards via a maintenance-free diesel oxidation catalyst (DOC) without requiring a diesel particulate filter (DPF) or DEF fluid. The hydraulic system employs a dual-gear pump architecture (2 x 18 L/min) with a load-sensing main control valve, delivering simultaneous boom lift and swing at full engine rpm.

Hydraulic oil cooling is managed via a fin-tube aluminum radiator with a thermostatic fan clutch, maintaining oil viscosity below 80°C even in continuous trenching cycles.

KEY FEATURES & OPERATOR COMFORT

- Zero Tail Swing (ZTS) Architecture: The counterweight rotates entirely within the track width, enabling safe operation within 50 mm of walls and obstacles. Perfect for sidewalk renovation and indoor demolition where swing clearance is zero.

- ROPS/FOPS Level-2 Cab (Optional): Seamless steel canopy with 10 mm polycarbonate front guard certified to ISO 12117-2. Optional enclosed cab includes a heating/defrost system, halogen work lights, and a high-back suspension seat with seatbelt interlock for engine start.

- Smart Pro-Control Panel: A 4.3-inch LCD digital display provides real-time telemetry: engine coolant temp, hydraulic oil temp, fuel level (24 L tank), service hour meter, and auto-idle activation status. Integrated diagnostic codes reduce troubleshooting time by 40%.

- Variable Undercarriage (Standard): Hydraulically expandable tracks retract to 980 mm for trailer transport (legal width in most regions) and extend to 1,260 mm for operational stability. This feature also allows the machine to pass through standard 36-inch doorways.

- Auxiliary Hydraulic Plumbing: Standard hammer/shear circuit with

proportional thumb control via right joystick roller switch. Flow rate adjustable from 15 to 32 L/min, supporting hydraulic breakers up to 200 kg and augers for fence post drilling.

COMPLIANCE & SAFETY STANDARDS

All 1.2 ton Excavator units are manufactured in an ISO 9001:2015 certified facility and carry the following product certifications: CE Marking (Machinery Directive 2006/42/EC), EPA Tier 4 Final Certificate of Conformity, EU Stage V, Australia E3 (AS/NZS 4025). Safety features include an automatic engine shut-off for low oil pressure or high coolant temperature, a two-lever pilot lock (prevents all hydraulic functions unless operator is seated), and anti-slip punched steel floor plates meeting ASTM E303-93 (skid resistance > 65). The machine complies with ISO 16754 for earth-moving machinery braking systems and SAE J1026 for overhead guard impact resistance. A 24V emergency stop switch is located on the left track frame for external control.

TECHNICAL SPECIFICATIONS

All parameters measured at nominal operating temperature, standard bucket (0.03 m³), and 75 kg operator. Values may vary +/- 5% based on attachment and site altitude.

Parameter	Specification
Engine Model	Isuzu D950 (or Yanmar 3TNV76)
Engine Power (Net)	11.8 kW @ 2,300 rpm (15.8 HP)
Operating Weight (Cab / Canopy)	1,280 kg / 1,195 kg
Bucket Capacity (SAE Heaped)	0.03 m ³ (0.04 yd ³)
Max Digging Depth	2,150 mm (84.6 in)
Max Dump Height	2,410 mm (94.9 in)
Bucket Breakout Force (ISO)	12.8 kN (2,877 lbf)
Arm Breakout Force	7.2 kN (1,618 lbf)
Swing Speed (Full Rotation)	9.2 rpm
Travel Speed (Low / High)	1.8 / 3.4 km/h
Ground Pressure (Std Track)	29.5 kPa (4.3 psi)
Fuel Tank Capacity	24 L (6.3 gal)
Hydraulic Tank Capacity	18 L (4.8 gal)
Tail Swing Radius (ZTS)	0 mm over track
Overall Width (Retracted / Extended)	980 mm / 1,260 mm (38.6 / 49.6 in)
Track Shoe Width	230 mm (9.1 in)