

1.6 ton Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

Engineered for the most demanding urban infrastructure, residential construction, and specialized agricultural applications, the 1.6 ton Excavator redefines the ultra-compact equipment segment. With an operating weight of 1,650 kg and a class-leading breakout force of 16.2 kN, this machine delivers macro-excavator performance in a micro footprint. The zero-tail-swing design allows operators to work flush against walls or within traffic-restricted corridors, making it the definitive solution for trenching, foundation digging, landscaping, and stable cleaning.

Powered by a Tier 4 Final compliant diesel engine and featuring a fully proportional load-sensing hydraulic system, the 1.6 ton model achieves up to 12% higher fuel efficiency compared to previous generation units. Its robust steel fabrication and compact layout ensure high daily productivity while maintaining safe transportability on a standard 2-axle trailer. For fleet managers seeking a balance of power, safety, and total cost of ownership, this excavator sets a new benchmark.



STRUCTURAL INTEGRITY & POWERTRAIN

The main chassis utilizes high-tensile strength SM490A-grade steel plates with reinforced box-section construction at all pivot points, offering an ultimate tensile strength of 490 MPa and double the fatigue life of conventional carbon steel. The undercarriage features sealed and lubricated track chains with bolt-on sprockets and triple-flange track rollers for superior stability during side-slope operation. The engine bay houses a liquid-cooled, 3-cylinder diesel engine (Yanmar or Kubota equivalent) delivering 11.4 kW (15.3 HP) at 2,400 rpm, fully compliant with EPA Tier 4 Final and EU Stage V emissions regulations via a maintenance-free diesel oxidation catalyst (DOC). The closed-center, load-sensing hydraulic system operates at a main relief pressure of 210 bar (3,045 psi), generating a bucket digging force of 16.2 kN and an arm crowd force of 10.5 kN. An axial piston variable displacement pump provides a total

hydraulic flow of 41 L/min, ensuring precise simultaneous control of boom, arm, bucket, and travel functions.

KEY FEATURES & OPERATOR COMFORT

- Load-Sensing Proportional Hydraulics: The advanced load-sensing system directs oil flow precisely based on demand, reducing parasitic energy loss and enabling silky-smooth multifunction operation (e.g., booming while curling).

This allows feather-touch trenching near utility lines without jerking.

- ISO/SAE Selectable Operator Station: A fully ROPS/FOPS (ISO 12117) certified canopy includes standard seat belt, armrest-integrated pilot controls, and a simple lever selector to switch control patterns (ISO to SAE) in under 30 seconds, reducing operator learning curves across different jobsites.

- Zero-Tail-Swing & Variable Gauge Undercarriage: The superstructure does not extend beyond the track width, protecting the counterweight and rear components in congested areas. The dozer blade can be angled, and the undercarriage features a hydraulic expandable track system (1,000 mm retracted / 1,250 mm expanded) to dynamically trade transport width for working stability.

- Smart Control Panel & Telematics Ready: A sealed digital display shows engine coolant temperature, fuel level, service hour meter, and diagnostic fault codes. An OEM-dedicated port allows plug-and-play installation of 4G telematics units for real-time fleet management (GPS tracking, geofencing, idle time reports).

- Easy Service Access: The swing-out rear engine cover and removable side panels provide ground-level access to the battery, main hydraulic valves, engine oil dipstick, and fuel/water separator, with a centralized grease bank for upper structure pins.

COMPLIANCE & SAFETY STANDARDS

The 1.6 ton Excavator is engineered and certified to meet the highest global regulatory and safety frameworks. All units carry CE (European Conformity) certification, EPA Tier 4 Final (USA) emissions compliance, and EU Stage V. The operator protective structure (ROPS/FOPS) is tested to ISO 12117:2006, and the entire manufacturing process follows ISO 9001:2015 quality management standards. Additional safety features include an automatic swing lock when traveling, a seat-mounted operator presence sensor that deactivates all hydraulic controls if the operator leaves the seat, and a secondary boom holding valve to prevent load drop in case of hydraulic line failure.

TECHNICAL SPECIFICATIONS

The following table details the verified performance and dimensional parameters for standard configuration (rubber tracks, canopy, standard bucket).

All values are derived from ISO 6015/6016 testing protocols.

Parameter	Specification
Engine Model	Yanmar 3TNV76 or Kubota D902 (Tier 4 Final)
Engine Power (Net)	11.4 kW / 15.3 HP @ 2,400 rpm
Operating Weight (Canopy / Rubber Tracks)	1,650 kg (3,638 lb)
Bucket Capacity (Heaped)	0.04 - 0.06 m ³ (SAE heaped)
Max Digging Depth	

>2,310 mm (7 ft 7 in)	
Max Dump Height	>2,540 mm (8 ft 4 in)
Max Digging Reach	>3,990 mm (13 ft 1 in)
Bucket Breakout Force (ISO)	16.2 kN (3,642 lbf)
Arm Crowd Force	10.5 kN (2,360 lbf)
Swing Speed (Upper structure)	8.5 rpm
Travel Speed (High/Low)	3.8 / 2.2 km/h
Ground Pressure (Rubber Tracks)	27.5 kPa (3.99 psi)
Overall Width (Standard Tracks)	>1,100 mm (43.3 in)
Fuel Tank Capacity	18 L (4.75 gal)
Hydraulic System Relief Pressure	

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8px; border: 1px solid #ddd; >210 bar (3,045 psi) </td> </tr> <tr> <td
style='padding: 8px; border: 1px solid #ddd; >Main Pump Flow </td> <td
style='padding: 8px; border: 1px solid #ddd; >2 x 20.5 L/min (41 L/min
total) </td> </tr> </table>
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