

## 0.2m<sup>3</sup> Excavator - Official Technical Overview & Datasheet

### EXECUTIVE SUMMARY

Engineered for the intersection of agility and excavation power, the 0.2m<sup>3</sup> Bucket Excavator redefines the compact equipment segment. Targeting urban construction, landscape grading, row-crop agriculture, and utility trenching, this machine replaces manual labor with hydraulic precision in spaces where standard mini excavators cannot operate. Its sub-1.8m tail swing and proportional thumb-ready hydraulics provide a 34% cycle time advantage over skid-steer loader backhoe attachments.

Built on a high-tensile steel X-frame chassis, the unit leverages a Tier 4 Final diesel powerplant and an advanced closed-center load-sensing hydraulic system. The primary value proposition centers on three pillars: maximum material removal per fuel gallon (0.2m<sup>3</sup> bucket heaped capacity), structural longevity validated by 5,000-hour accelerated fatigue tests, and a simplified daily service layout that reduces routine maintenance time to under 15 minutes.



## STRUCTURAL INTEGRITY & POWERTRAIN

The chassis utilizes BTH-1 grade 500 MPa high-strength low-alloy (HSLA) steel with an anti-corrosion e-coat primer and polyurethane topcoat, ensuring resistance to spall and chemical exposure on agricultural and demolition sites. The reinforced boom arm features a cast-steel node at the pivot point, eliminating welded stress risers. The powertrain is anchored by a liquid-cooled, naturally aspirated diesel engine (Yanmar 3TNV74 or equivalent Isuzu 3LD1 derivative) producing 14.2 kW (19.1 hp) at 2,200 rpm. The engine meets EPA Tier 4 Final and EU Stage V without a DPF, utilizing oxidation catalyst technology. The closed-center hydraulic system generates 17.6 L/min (4.65 gpm) at 20.5 MPa (2,973 psi) via a variable-displacement axial piston pump, delivering independent boom, arm, bucket, and swing priority. Hydraulic cooling is managed by a stacked plate-fin cooler with a thermostatic bypass,

preventing degradation during continuous heavy excavation.

#### KEY FEATURES & OPERATOR COMFORT

- **LOAD-SENSING HYDRAULICS WITH AUXILIARY FLOW PROPORTIONAL:** A two-pump architecture provides 17.6 L/min variable flow for implements while maintaining 14 L/min dedicated to travel and swing. The auxiliary circuit includes bi-directional flow control (0-100% via right-hand roller switch) for breakers, augers, or compactors, with flat-face couplers standard.
- **ROPS/FOPS CERTIFIED ISO CAB W/ SEALED PRESSURIZATION:** Four-post ROPS (ISO 12117) and FOPS Level I (ISO 17253) structure. Fully glazed with tempered 8mm front polycarbonate windshield (removable for overhead clearance). Cabin includes low-effort pilot joysticks, wrist rests, a 5.7-inch LCD smart display (machine hours, fuel level, coolant temp, hydraulic oil temp, and diagnostic codes), plus 12V power port and USB charging.
- **ZERO-TAIL-SWING & COMPACT UNDERCARRIAGE:** Swing radius of 1,250mm (49.2 in), allowing operation directly against walls or truck beds. Retractable track frame (width variable from 1,150mm to 1,400mm) for transport and stability. Rubber tracks with steel belt insert standard; steel tracks optional.
- **AUTOMATIC IDLE & ENGINE SHUTDOWN:** System auto-reduces engine speed to 1,400 rpm after 5 seconds of joystick neutral, and initiates complete shutdown after 10 minutes of idle, saving up to 18% fuel on job sites with intermittent work cycles.

- TELESCOPIC UNDERCARRIAGE DOZER BLADE: Hydraulically extendable dozer blade with float position, 1,850mm width (fully extended). Blade angle adjustable  $\pm 25$  degrees. Integral bolt-on cutting edge (reversible).

## COMPLIANCE & SAFETY STANDARDS

The 0.2m<sup>3</sup> Excavator is certified to CE (2006/42/EC Machinery Directive) and EPA Tier 4 Final (CFR 1039). ISO 9001:2015 certified manufacturing facility. Safety compliance includes ISO 20474 (earth-moving machinery safety), ISO 12117 (ROPS laboratory test), and ISO 17253 (FOPS). Hydraulic hoses meet SAE 100R2 and ISO 18752. Emergency features include: two ground-level battery disconnect switches, an accumulator-assisted boom lower (engine-off descent), rear-view camera (optional but pre-wired), and seatbelt interlock (machine stops if operator leaves seat without engaging parking brake). Sound power level (LWA) is 96 dB(A); operator ear LpA is 78 dB(A) with cab closed.

## TECHNICAL SPECIFICATIONS

The following values are based on SAE J1179 and ISO 6016 standards with standard rubber tracks, full fluids, 75 kg operator, and 0.2m<sup>3</sup> heaped bucket (ISO 7451).

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<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;'>Yanmar 3TNV74 / Isuzu 3LD1 (14.2 kW @ 2200
rpm)</td> </tr> <tr> <td style='padding: 8px; border: 1px solid
#ddd;'>Operating Weight</td> <td style='padding: 8px; border: 1px solid
#ddd;'>1,980 kg (4,365 lb) with cab / 1,890 kg (4,167 lb)
canopy</td> </tr> <tr> <td style='padding: 8px; border: 1px solid
#ddd;'>Bucket Capacity (Heaped)</td> <td style='padding: 8px; border: 1px
solid #ddd;'>0.20 m3 (7.1 ft3)</td> </tr> <tr> <td style='padding: 8px; border:
1px solid #ddd;'>Bucket Capacity (Struck)</td> <td style='padding: 8px; border:
1px solid #ddd;'>0.15 m3 (5.3 ft3)</td> </tr> <tr> <td style='padding: 8px;
border: 1px solid #ddd;'>Max Digging Depth</td> <td style='padding: 8px;
border: 1px solid #ddd;'>2,350 mm (92.5 in)</td> </tr> <tr> <td
style='padding: 8px; border: 1px solid #ddd;'>Max Dump Height</td> <td
style='padding: 8px; border: 1px solid #ddd;'>2,890 mm (113.8
in)</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 (154 in)</td> </tr> <tr> <td style='padding: 8px; border: 1px
solid #ddd;'>Swing Radius (Rear)</td> <td style='padding: 8px; border: 1px

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1,250 mm (49.2 in)	
Track Width (Retracted/Extended)	1,150 / 1,400 mm (45.3 / 55.1 in)
Ground Pressure (Rubber Tracks)	28.5 kPa (4.1 psi)
Hydraulic Flow (Main)	17.6 L/min @ 20.5 MPa
Auxiliary Hydraulic Flow	16.0 L/min (adjustable)
Fuel Tank Capacity	20 L (5.3 gal US)
Hydraulic Tank Capacity	18 L (4.8 gal US)
Swing Speed	9.8 rpm
Travel Speed (High/Low)	3.8 / 1.9 km/h (2.4 / 1.2 mph)
Gradeability	30° (58%)
Dozer Blade Width x Height	

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8px; border: 1px solid #ddd; >1,400-1,850 mm x 290 mm</td> </tr> <tr> <td
style='padding: 8px; border: 1px solid #ddd; >Boom Swing Angle
(Left/Right)</td> <td style='padding: 8px; border: 1px solid #ddd; >70° / 55°
</td> </tr> </table>
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