

## 1 Ton Digger - Official Technical Overview & Datasheet

### EXECUTIVE SUMMARY

Engineered for zero-tail-swing agility in confined trenches, landscaping plots, and indoor demolition sites, the 1 Ton Digger redefines the ultra-compact excavation category. With a transport width under 700mm and a maximum dig depth of 1,850mm, this machine bridges the gap between hand tools and full-size mini excavators. Primary target markets include municipal utility contractors, vineyard/agricultural drainage crews, and residential foundation specialists who demand high breakout force without compromising site access.

Built on a X-gframe monobloc chassis using DOMEX 700MC high-tensile steel, the 1 Ton Digger offers a class-leading 14.5kN of bucket breakout force. The hydraulic system features a dual-gear pump configuration capable of 17.8 L/min total flow, enabling simultaneous boom swing and track drive functions. For rental fleets and owner-operators, the machine delivers a sub-1,000kg shipping weight that qualifies for towing behind a standard light commercial vehicle without special permits.



## STRUCTURAL INTEGRITY & POWERTRAIN

The chassis frame is laser-cut from 6mm-thick DOMEX 700MC boron steel (yield strength 700 MPa), reinforced with internal crash bars at the slew bearing interface. The undercarriage features bolt-on, heat-treated steel track links with replaceable rubber pads. The powertrain is centered around a naturally aspirated Isuzu D722 diesel engine (3 cylinders, 718cc displacement), delivering 10.4 kW (13.9 hp) at 2,300 rpm. The engine is paired with a two-speed axial piston travel motor providing 2.3 km/h high range and 1.1 kmh creep speed. All hydraulic functions operate via a load-sensing, pressure-compensated pump (Kawasaki SX-12 series) that reduces flow when no actuator is active, cutting fuel consumption by up to 18% compared to fixed-displacement systems.

## KEY FEATURES & OPERATOR COMFORT

- Smart CANBUS Control Panel: A 4.3-inch IP65-rated LCD screen provides real-time engine RPM, hydraulic oil temperature, maintenance intervals, and three selectable power modes (Eco/S-Boost/Lifting). Bluetooth connectivity for smartphone diagnostics.
- ROPS/FOPS Level II Cabin: Certified to ISO 12117-2:2008, the reinforced steel cab includes a sliding front window, overhead sunblind, and a fully adjustable suspension seat with seatbelt interlock. Internal sound pressure level at operator ear is 81 dB(A).
- Variable Undercarriage Track Width: Hydraulically adjustable track width from 680mm (transport) to 970mm (operating stance) via a foot pedal control. This allows passage through standard doorways while maintaining tip-over stability on slopes up to 15 degrees.
- Auto-Stop Swing Control: When the optional laser receiver is paired, the swing brake automatically engages within 1.5 degrees of the programmed trench alignment. A standard auxiliary hydraulic circuit (40 L/min at 210 bar) powers breakers or augers via flat-face couplers.
- Anti-Theft Immobilizer: Electronic key fob with rolling code encryption and geofencing capability through the factory telematics portal. Unauthorized machine movement triggers both audible alarm and SMS alert.

## COMPLIANCE & SAFETY STANDARDS

The 1 Ton Digger carries full CE marking (Machinery Directive 2006/42/EC) and EPA Tier 4 Final certification on the Isuzu D722 engine. Structural safety is validated through ISO 12117-2 for tip-over protection and ISO 10265 for falling object protective structures. The hydraulic system meets ISO 8643 for lowering control devices, preventing boom drift beyond 15mm per 10 minutes. Electrical components comply with IP65 and ISO 13766 for electromagnetic compatibility. Additionally, the machine meets Chinese GB/T 9139-2018 national standard for hydraulic excavators and Australian AS 2958.1 for rail corridor operations.

#### TECHNICAL SPECIFICATIONS

All values measured according to ISO 6016 standard for hydraulic excavator weights and ISO 7457 for performance. Operating weight includes 40kg operator, full fuel tank, standard bucket, and rubber tracks.

Parameter	Specification
Engine Model	Isuzu D722 (Diesel, 3-cyl, 718cc)
Net Power	

10.4 kW (13.9 hp) @ 2,300 rpm	
Operating Weight	980 kg (2,161 lb)
Bucket Capacity (SAE)	0.025 - 0.035 m <sup>3</sup> (0.9 - 1.2 cu ft)
Max Dig Depth	1,850 mm (72.8 in)
Max Dump Height	2,310 mm (90.9 in)
Bucket Breakout Force	14.5 kN (3,260 lbf)
Arm Breakout Force	9.2 kN (2,068 lbf)
Hydraulic Flow (Total)	17.8 L/min (4.7 gpm)
Fuel Tank Capacity	11.5 L (3.04 gal)
Transport Length (Boom Lowered)	2,460 mm (96.9 in)
Transport	

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Width (Tracks In)</td><td style='padding: 8px; border: 1px solid #ddd;'>680
mm (26.8 in)</td></tr><tr><td style='padding: 8px; border: 1px solid
#ddd;'>Ground Clearance</td><td style='padding: 8px; border: 1px solid
#ddd;'>135 mm (5.3 in)</td></tr><tr><td style='padding: 8px; border: 1px
solid #ddd;'>Swing Speed (Slew)</td><td style='padding: 8px; border: 1px
solid #ddd;'>9.2 rpm</td></tr><tr><td style='padding: 8px; border: 1px solid
#ddd;'>Gradeability</td><td style='padding: 8px; border: 1px solid #ddd;'>30
degrees (57%)</td></tr></table>
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