Rubber Track Digger - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

Engineered for the modern jobsite, the Rubber Track Digger (RTD-Series) bridges the gap between traditional steel-track excavators and wheeled loaders. Designed for contractors in urban construction, landscaping, precision agriculture, and utility work, this machine delivers exceptional flotation and turf-friendly operation without compromising breakout force. The RTD-Series excels on finished pavement, golf courses, vineyards, and indoor demolition sites where ground pressure must be minimized.

Powered by a Tier 4 Final compliant diesel engine and a high-efficiency load-sensing hydraulic system, the RTD-Series offers the digging performance of a conventional compact excavator with the mobility and surface protection of rubber tracks. With a tail-swing radius optimized for confined spaces and an operating weight range from 1.5 to 8 metric tons, this platform delivers OEM-grade reliability for rental fleets and owner-operators alike.

STRUCTURAL INTEGRITY & POWERTRAIN

The RTD-Series chassis is fabricated from high-tensile strength DOMEX 700MC steel (yield strength ≤700 MPa) with finite element analysis (FEA) optimized reinforcement at all pivot points. The box-section track frame features integrated track tensioners with grease-cylinder adjustment, ensuring consistent rubber track alignment under variable loads. All pivot pins are induction-hardened to 58-62 HRC and equipped with chromed bushings for extended service intervals.

Engine options include the YANMAR 3TNV76 (1.5T-2.5T models) and the Cummins QSF2.8 (3.5T-8T models), both certified to EPA Tier 4 Final and EU Stage V. The common-rail direct injection system delivers 21.5 kW to 55.4 kW net power. The closed-center, load-sensing hydraulic system features a

variable-displacement axial piston pump with a total flow capacity of 68 L/min to 152 L/min, operating at 23.5 MPa (3410 psi) main relief. Hydraulic efficiency exceeds 88%, enabling simultaneous boom, arm, and swing operations with minimal flow loss.

KEY FEATURES & OPERATOR COMFORT

- Load-Sensing Hydraulics with Boom-Float Mode: Proportional joystick control with adjustable auxiliary flow rates (0-80 L/min) for attachments such as hydraulic thumbs, breakers, and augers. Boom-float detent allows grade finishing without operator fatigue.

- ROPS/FOPS Level 2 Certified Cab: Integrated falling object protection (FOPS) meeting ISO 3449 Level 2 and rollover protection (ROPS) per ISO 12117. Pressurized cab with HEPA filtration, laminated glass front window, and a high-back suspension seat with weight adjustment.

- Smart Control Panel with Telematics: 5-inch LCD color display showing real-time engine load, hydraulic temperature, fuel consumption, and maintenance reminders. Standard GSM/GPS telematics module provides remote fleet tracking and geofencing alerts.

- Zero Tail-Swing and Retractable Track Frame: Rear swing radius equals track width, allowing operation within 30 cm of obstacles. Optional hydraulically adjustable track frame expands width from 990 mm to 1290 mm for transport stability.

- Auto-Deceleration and Two-Speed Travel: When all controls are in neutral, engine RPM automatically drops to 1400 RPM for fuel savings. Travel motors deliver 0-4.5 km/h low speed and 0-9.2 km/h high speed with automatic downshift under load.

COMPLIANCE & SAFETY STANDARDS

The RTD-Series is manufactured in an ISO 9001:2015 certified facility and fully compliant with CE Marking (Machinery Directive 2006/42/EC), EPA Tier 4 Final (40 CFR Part 1039), and EU Stage V (Regulation (EU) 2016/1628). Safety features include an operator presence sensing system (OPSS) that locks hydraulics within 0.5 seconds of seat departure, a secondary park brake interlock, and an emergency boom lower valve. Acoustic emission levels are ≤ 96 dB(A) at the operator ear, meeting ISO 6396. All models carry TÜV SÜD type-examination certification for ROPS/FOPS.

TECHNICAL SPECIFICATIONS

<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 3TNV76 / Cummins QSF2.8</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Net Power</td><td style='padding: 8px; border: 1px solid #ddd;'>21.5 kW - 55.4 kW @ 2400 rpm</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Operating Weight</td><td style='padding: 8px; border: 1px solid #ddd;'>1,580 kg - 8,200 kg</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Bucket Digging Force</td><td style='padding: 8px; border: 1px solid #ddd;'>18.5 kN - 52.3 kN (ISO 6015)</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Ground Pressure</td><td style='padding: 8px; border: 1px solid #ddd;'>22.3 kPa - 34.6 kPa</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Hydraulic Flow</td><td style='padding: 8px; border: 1px solid #ddd;'>68 L/min - 152 L/min</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Max Dig Depth</td><td style='padding: 8px; border: 1px solid #ddd;'>2,250 mm - 4,620 mm</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 - 11.2 rpm</td></tr><tr><td style='padding: 8px; border: 1px solid #ddd;'>Track Width</td><td style='padding: 8px; border: 1px solid #ddd;'>230 mm - 450 mm (rubber)</td></tr></table>