

RoHS Compliant Excavator - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

The new RoHS Compliant Excavator Series represents a paradigm shift in sustainable heavy machinery, engineered for global construction, mining, and agricultural operations subject to strict environmental material regulations. Unlike conventional units containing restricted hazardous substances (lead, mercury, cadmium, hexavalent chromium, PBB, PBDE), this lineup ensures full compliance with EU Directive 2011/65/EU while delivering up to 18% higher swing torque and 12% lower fuel consumption than previous models. Target applications include urban infrastructure projects, precision farming land-forming, and quarry overburden removal.

Built upon a modular platform shared with our Tier 4 Final and Stage V product lines, the RoHS series eliminates all banned substances from every electronic control unit, wiring harness, hydraulic seal, and painted surface. Operators gain unrestricted access to European, North American, and Asian job sites without customs delays or retrofit penalties. With five base weight classes from 14 to 45 metric tons, the line offers a future-proof investment for contractors pursuing green building certifications and circular economy procurement mandates.



STRUCTURAL INTEGRITY & POWERTRAIN

The chassis utilizes JFE EverGreen high-strength steel (minimum 590 MPa yield) with a fully RoHS-compliant zinc-nickel undercoating, eliminating hexavalent chromium passivation. Welds undergo 100% ultrasonic inspection to ISO 17640 standards. The mainframe features an X-shaped box section, increasing torsional rigidity by 22% compared to traditional C-frame designs.

Power is provided by the Cummins X12 RoHS Edition or Isuzu GH-6U series diesel engine, both certified to EPA Tier 4 Final and EU Stage V. Common rail fuel injection at 2,000 bar paired with a maintenance-free DOC+DPF+SCR aftertreatment system. All engine sensors, wiring jackets, and solder joints are RoHS-compliant (lead-free, cadmium-free). The closed-center load-sensing hydraulic system delivers 34.6 MPa (5,020 psi) maximum pressure with a

variable displacement axial piston pump. Hydraulic hoses use RoHS-compliant nitrile rubber seals without phthalate plasticizers.

KEY FEATURES & OPERATOR COMFORT

- RoHS-Certified Smart Control Panel: Full-color 10.1-inch touchscreen with lead-free soldering and halogen-free laminates. Displays real-time emissions compliance status, DPF soot load, and machine health analytics. Includes RFID keyless start with tiered access for fleet managers.
- Next-Gen ROPS/FOPS Cab: ISO 12117-2 certified falling object protective structure with lead-free acoustic glazing (43 dB internal noise). Dual-pane thermal glass with UV-reflective coating. Operator seat features six-way pneumatic adjustment and heated/cooled surfaces using RoHS-compliant flex circuits.
- Load-Sensing Hydraulic Optimization: Three selectable power modes (Eco, Standard, Heavy) with automatic flow sharing between boom, arm, and bucket. Electric joysticks with hall-effect sensors (no mercury content) deliver 0.5 mm deadband for precision grading near utilities.
- Telematics & Remote Diagnostics: Factory-installed RoHS-compliant LTE modem with GPS and GNSS. Transmits engine hours, fuel consumption, fault codes, and geofence breaches to any mobile device. Over-the-air ECU parameter updates without dealer visit.
- Quick-Coupler Ready: Standard hydraulic auxiliary circuit with proportional

control for rotating buckets, tilt rotators, and hydraulic hammers. All coupler components (valve blocks, quick disconnects) certified RoHS by Bureau Veritas.

COMPLIANCE & SAFETY STANDARDS

Full RoHS 3 (EU 2015/863) compliance verified by SGS testing, including restricted phthalates (DEHP, BBP, DBP, DIBP). Additional certifications: ISO 9001:2015 (Quality Management), ISO 14001:2015 (Environmental Management), CE Marking (Machinery Directive 2006/42/EC), EPA Tier 4 Final, EU Stage V, EAC (Eurasian Conformity), ANATEL (Brazil), and KC (South Korea). Safety systems include automatic emergency parking brake, hill-hold function (5-second delay), rearview and right-side cameras with 7-inch monitor, and rotating beacon with LED strobe (mercury-free). Machine design incorporates ISO 20474 earth-moving machinery safety requirements.

TECHNICAL SPECIFICATIONS

All values measured per ISO 9249, ISO 6016, and ISO 7457 standards. Operating conditions: standard backhoe configuration, heavy-duty bucket, full fluids, 75 kg operator.

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Parameter	Specification (Model EX330-RoHS)
Engine Model	Cummins X12 (RoHS Edition)
Net Power	210 kW (282 hp) @ 1,900 rpm
Operating Weight	32,500 - 34,200 kg (depending on attachment)
Bucket Capacity (SAE)	1.8 - 2.2 m ³ (Heavy Duty)
Max Digging Depth	7,380 mm
Max Reach at Ground Level	11,100 mm
Max Breakout Force (Arm)	156 kN
Swing Torque	98 kNm
Hydraulic Main Pump	

Flow	2 x 280 L/min
Relief Valve Pressure	34.6 MPa (5,020 psi)
Fuel Tank Capacity	520 L
DEF Tank Capacity	42 L
Ground Clearance	500 mm
Tail Swing Radius	2,990 mm
Track Shoe Width	600 mm (triple grouser)
RoHS Compliance	Full 2015/863 (10 substances) verified