

Factory Direct Mini Excavator Sourcing Checklist - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

Our factory-direct mini excavator series represents the culmination of decades of engineering excellence, specifically designed to meet the rigorous demands of modern urban construction, precision agriculture, and mine site support operations. This sourcing checklist serves as the definitive technical guide for procurement professionals seeking to verify critical performance metrics and compliance data before fleet integration. The equipment bridges the gap between traditional compact utility and heavy-duty cyclical work, offering a robust power curve that maximizes productivity while minimizing total cost of ownership.

Engineered with a heavy-duty X-frame undercarriage and a fully enclosed, sound-suppressed engine bay, this machine ensures reliable operation in environments ranging from -20°C to +50°C. The sourcing checklist featured in this datasheet provides a systematic approach to evaluating key supplier capabilities, including weld quality verification, hydraulic system purity tests, and final assembly tolerance checks. By adhering to this OEM standard, procurement teams can ensure that every unit delivered meets the stringent ISO 9001 and CE safety frameworks, guaranteeing immediate integration into

existing workflows without performance bottlenecks.



STRUCTURAL INTEGRITY & POWERTRAIN

The primary structure utilizes high-tensile, abrasion-resistant steel (yield strength exceeding 450 MPa) for the boom, arm, and upper frame, laser-cut and robotically welded to ensure consistent penetration and fatigue resistance. The chassis features a forged steel swing bearing and track tensioning system, engineered to withstand shock loads and side impacts common in demolition and material handling. To combat corrosion, the entire undercarriage undergoes a seven-stage wash, phosphate, and electrocoating (E-coat) process before final topcoat application, providing superior protection for coastal or high-humidity operations.

Power is delivered by a liquid-cooled, four-cylinder diesel engine (meeting EPA Tier 4 Final and EU Stage V emission standards) equipped with a common-rail fuel injection system and a variable-geometry turbocharger. This setup provides a peak power output of 24.8 kW at 2,200 rpm, with a remarkable torque rise of 35% to power through sudden load increases. The closed-center, load-sensing hydraulic system incorporates a variable-displacement piston pump that delivers 150 L/min of flow, optimizing attachment performance (e.g., augers, breakers, and grapples) while maintaining precise boom and bucket speed control through electro-proportional joysticks.

KEY FEATURES & OPERATOR COMFORT

- Smart Power Management (SPM) System: Automatically adjusts engine speed and hydraulic flow based on real-time load demands, reducing fuel consumption by up to 18% during standard digging cycles and lowering decibel levels in the cab.
- ROPS/FOPS Level II Certified Cab: Pressurized, acoustically treated cabin reduces interior noise to under 76 dB(A). Features a high-back suspension seat with retractable seatbelt, foot-controlled swing, and an intuitive 7-inch LCD multi-function display for machine diagnostics, fuel tracking, and maintenance intervals.
- Auto-Idle & Auto-Shutdown: Integrated system automatically reduces engine RPM to idle after 5 seconds of joystick inactivity and shuts down the engine

after a user-defined period, eliminating unnecessary fuel waste and emissions on idle.

- X-Frame Undercarriage with Multi-Width Tracks: Allows for variable track gauge expansion to increase stability on sloping terrain (up to 15° side slope capability) while maintaining a compact transport width of under 2.5 meters, facilitating standard flatbed transportation.

- Integrated Telematics Port: Plug-and-play ready for fleet management systems, providing real-time GPS tracking, utilization reports, and critical fault code alerts directly to the operator's mobile device and back-office logistics platforms.

COMPLIANCE & SAFETY STANDARDS

This equipment is designed and manufactured under strict adherence to international quality and safety protocols. All units are certified with CE (Conformité Européenne), EPA Tier 4 Final, and EU Stage V emission compliance, ensuring legal operation across all major territories. The primary structure undergoes Non-Destructive Testing (NDT) via ultrasonic and magnetic particle inspection as part of the factory-direct sourcing checklist to validate weld integrity. Additionally, the entire assembly is ISO 9001:2015 certified, with all hydraulic hoses and fittings meeting SAE J517 and ISO 18752 pressure standards. Emergency protocols include an external engine shutoff switch, a

two-lever pilot safety lock, and a standard backup alarm, ensuring worksite safety compliance for OSHA and local mining regulations.

TECHNICAL SPECIFICATIONS

The following technical parameters are derived from standard test conditions under ISO 6015 and SAE J1166. Procurement specialists should utilize this table as a baseline for verifying equipment specifications during the factory acceptance testing (FAT) phase, as detailed in the comprehensive sourcing checklist PDF.

Parameter	Specification
Engine Model	Cummins / Isuzu Tier 4 (24.8 kW)
Operating Weight	5,800 - 6,200 kg (Var. by spec)
Bucket Capacity (SAE)	0.18 - 0.25 m ³
Max	

Digging Depth	3,800 mm
Max Reach at Ground Level	6,100 mm
Max Dump Height	4,100 mm
Swing Speed	10.2 rpm
Travel Speed (High/Low)	4.8 / 2.7 km/h
Ground Pressure	35.6 kPa
Fuel Tank Capacity	75 L