

Mini Excavator Source Supplier Sourcing Checklist - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

This document serves as the definitive technical overview and sourcing checklist for the procurement of Mini Hydraulic Excavators within the 1-6 ton class. Designed for the discerning Procurement Manager, this equipment is purpose-built to deliver maximum power and performance in a compact footprint, making it indispensable for a wide range of applications including urban construction, landscaping, agriculture, and utility projects. The primary value proposition centers on achieving lower total ownership costs through improved fuel efficiency and extended service intervals, combined with up to 20% more performance via customizable operator settings and superior lift, swing, and travel capabilities .



As a strategic asset, this sourcing checklist provides a robust framework for evaluating suppliers beyond mere pricing. It emphasizes a multi-dimensional assessment of technical capability, operational reliability, and post-sale support . By adhering to this guide, procurement teams can mitigate risks associated with cross-border transactions, ensure compliance with international standards, and secure a reliable supply chain for high-demand, compact excavation machinery.

STRUCTURAL INTEGRITY & POWERTRAIN

The foundation of this equipment's reliability is its robust structural integrity, typically utilizing high-grade steel (e.g., Q345 high-tensile steel) for the chassis and boom to ensure durability and resistance to torsional stress . The powertrain is engineered for optimal performance and emissions compliance,

commonly featuring turbocharged diesel engines from globally recognized manufacturers such as the Cat C3.3B or C1.7T, which are certified to meet stringent U.S. EPA Tier 4 Final and EU Stage V emission standards . The hydraulic system is a highlight of the design, employing a load-sensing, flow-sharing architecture with a variable displacement piston pump. This sophisticated setup delivers exceptional efficiency, providing high auxiliary circuit flow (up to 35 gpm) and precise control under varying load conditions to maximize cycle times and multifunction performance .

KEY FEATURES & OPERATOR COMFORT

- Load Sensing Hydraulics: The advanced load-sensing/flow-sharing hydraulic system with an electronic variable displacement piston pump ensures power is directed precisely where it's needed, offering superior multifunction performance and reduced fuel consumption .
- ROPS/FOPS Certified Cab: The operator cab meets ROPS (ISO 12117-2:2008) and Top Guard (ISO 10262:1998 Level I) standards, providing a safe working environment. Features like a Next Generation Color LCD Monitor with jog dial interface, adjustable wrist rests, and HVAC climate control systems significantly enhance operator comfort and reduce fatigue .
- Smart Control & Telematics: Integrated technology such as the Next Generation monitor allows for performance adjustments, machine monitoring, and numeric security code access. Optional telematics like Product Link enable

remote fleet management and diagnostics, improving operational uptime .

- Enhanced Serviceability & Safety: Key design features include Automatic Engine Idle/Shutdown to save fuel, a certified hydraulic accumulator for safety, and extended service intervals that lower total ownership costs. The inclusion of standard cameras and travel alarms enhances job site safety .

COMPLIANCE & SAFETY STANDARDS

The equipment and its suppliers must comply with a rigorous suite of international standards to ensure safety, quality, and environmental responsibility. At the manufacturer level, ISO 9001 certification for quality management is considered a baseline requirement for established suppliers . For the machinery itself, U.S. EPA Tier 4 Final and EU Stage V emissions certifications are non-negotiable for North American and European markets . Critical safety certifications include ROPS ISO 12117-2:2008 , Top Guard ISO 10262:1998 (Level I/II) , and compliance with CE marking directives (e.g., 2000/14/EC) for sound emissions .

TECHNICAL SPECIFICATIONS

The following specifications are representative of a premium-class Mini Excavator, benchmarked against industry leaders to ensure competitive

performance and operational capability.

Parameter	Specification
Engine Model	Cat C3.3B Turbo (U.S. EPA Tier 4 Final/EU Stage V)
Gross Power	74.3 hp (SAE J1995:2014)
Net Power	69.5 hp @ 2,200 rpm (ISO 9249)
Operating Weight	23,002 lb (Maximum Configuration)
Hydraulic System Type	Load Sensing with Variable Displacement Piston Pump
Pump Flow (2,400 rpm)	62 gpm
Operating Pressure	4,134 psi

Digging Force - Bucket	17,459 lbf
Digging Force - Stick	11,060 lbf
Max Dig Depth	205.2 in
Max Reach at Ground Level	298 in
Travel Speed (High/Low)	2.9 / 1.6 mph
ROPS Standard	ISO 12117-2:2008