

JCB Pilingmaster delivers new ground engineering solution

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JCB is creating a new sector in the ground engineering market with the development of an innovative piling solution delivering cost savings for customers.

With an operating weight of less than 12 tonnes, the JCB Pilingmaster establishes a new market between pedestrian mini piling rigs and full size crawler machines. It has been developed in cooperation with ground engineering contractors across the UK that offers excellent flexibility and manoeuvrability.

Unlike a conventional rig, the Pilingmaster also benefits from a front loader, with joystick control, that can be used to remove unwanted material and to clean up the site after piling. This can remove the need for a second machine on site, cutting cost for the contractor.

The JCB Pilingmaster features:

- Maximum 600mm auger diameter to full 14m depth
- 360° visibility for maximum safety on site
- Up to 150 linear/m productivity per shift
- Reduced piling mat requirement limits set-up cost
- UK design and build with full JCB service back-up

Ground engineered

Unveiled in concept form two years ago, JCB has worked in partnership with piling and ground engineering contractors across the UK, to develop and improve the initial Pilingmaster design. This has included upgrading the Kelly-bar, strengthening the piling frame and increasing motor and winch performance.

Based on the four-wheel drive, four-wheel steer chassis of JCB's most powerful backhoe loader, the Pilingmaster delivers unparalleled manoeuvrability on, and between sites.

The weight and accessibility of the machine require far less site preparation than for larger crawler models, with minimal need for an extensive piling mat to be constructed. This reduces cost for the contractor, cutting the preparation time before piling can commence. The standard JCB Powerslide sideshift boom mounting

allows the operator to reach up to three piles from a single position, further reducing time-consuming repositioning of the machine and boosting productivity.

The JCB Pilingmaster delivers up to 1.25 tonnes of head torque, working with piling diameters of 350-600mm in diameter to a full drilling depth of 14m. With a typical 450mm auger, the machine is capable of producing up to 150 linear m/day of pile, making it a highly productive rig for its weight and size.

With a transport height of less than 4m, the machine can travel between sites under its own power at speeds of up to 40kph, reducing the need for expensive transport, cutting time and cost for the contractor. JCB's Auto Smoothride System (SRS) is standard, reducing bounce in the loader arms and improving comfort when travelling for the operator. On site, the machine's limited slip differentials optimise traction in all ground conditions, while optimised weight, large diameter tyres and a low centre of gravity help to minimise ground bearing pressure.

The comfortable cab provides 360° visibility across the site, boosting safety and increasing productivity. Boom geometry is perfectly balanced, allowing the operator to pile close to existing structures, which in combination with the machine's manoeuvrability makes it a highly versatile option for contractors on confined sites.

By using JCB's world-beating backhoe loader as a base for the Pilingmaster, the machine offers a proven, ergonomic cab, with heated air-suspension seating, seat-mounted excavator-style servo control levers and a generous amount of in-cab storage.

The machine can move palletised materials up to 2 tonnes in weight, using integrated forks, while an optional handheld tool circuit allows the operator to work with a range of hand-held power tools such as breakers, pumps and saws.

The Pilingmaster uses a robust, in-house developed Kelly-bar design with multiple inner sections. This allows the rig to reach depths of 14m without having to stop drilling to add additional Kelly-bar sections. A hydraulic Brevini winch with automatic brake prevents over-winding of the wire rope, while a dipper cylinder limiter prevents over-extension and the risk of damage.

A new in-cab display provides the operator with all drilling data, including verticality, piling depth and pressure indicators for downforce and applied rotary torque. The machine also benefits from all of JCB's Automate backhoe loader functions. This includes Auto Check, allowing daily checks to be undertaken electronically from inside the cab and Auto Idle, to automatically return engine rpm to idle when the machine is not in use.

Auto throttle returns the engine rpm to a preset level as work resumes, while Auto Drive maintains a chosen engine speed during roading. Auto Stabiliser Up ensures that at the touch of a lever both stabiliser legs will be automatically retracted prior to movement of the machine.

The Pilingmaster is powered by JCB's proven Tier 4 Final EcoMAX diesel engine, delivering 81kW (108hp) and 516Nm of torque. Serviceability and access to components is excellent, with a lift-up engine canopy providing easy access to all filters and fill points. The piling rig can be folded forward to allow ground level service and refuelling can also be carried out from ground level. The Pilingmaster will also be supplied as standard with JCB's LiveLink telematic system, providing machine tracking and remote diagnostic functions for fleet managers.

Source: wyynot GmbH; JCB