

# World's First 1 tonne Electric Mini-Excavator from Bobcat

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Bobcat has launched the world's first 1 tonne electric mini-excavator at Bauma 2019. Combining zero emissions, low noise and a width of just 71 cm, Bobcat's new E10e battery-powered, zero tail swing (ZTS) mini-excavator can easily pass through standard doors and in and out of lifts, making it ideal for indoor applications such as demolition and basement construction.

Explaining why Bobcat has concentrated on this area of the electric excavator market, Jarry Fiser, Mini-Excavator Product Line Director, Doosan Bobcat EMEA, said: **“Based on market research and customer interest, we concluded that the 1 tonne electric mini-excavator sector is the most useful type and size - it is ideal for indoor demolition and basement digging.”**

At the last Bauma exhibition in 2016, Bobcat attracted great interest from visitors with the prototype of the E10e. Being one of the pioneers in this area with the E10e, Bobcat has helped to inspire the increasing focus on electric construction machines including excavators and, in the last few years, the industry has clearly started to move in this direction.

Jarry Fiser continued: **“In developing the E10e, we are meeting a market demand - not just demonstrating the technology for the sake of it. We are providing a product that offers clear customer benefits. Whilst it is extremely challenging to fit a complete electric solution in the 1 tonne class, this gives us the benefit to scale it up easier to other larger products in the future.”**

## ***Clear Market Demand for Electric Excavators***

As well as indoor demolition and basement projects, there are many other sites where zero emission, low noise machines are required such as urban/city centre developments, night-time work and contracts in quiet zones such as hospitals, cemeteries, schools and so on.

Jarry Fiser added: **“By coupling the E10e to an optional external Bobcat supercharger while operators are on normal work breaks, the E10e can operate for a full working day or can continuously work for 4 hours on a single charge in standard working conditions. The electric solution therefore solves many of the issues associated with these indoor tasks.”**

**“At Bobcat, we are strongly dedicated to meeting these specific business opportunities and we are aiming to lead the industry in innovation within the mini-excavator segment with the newly developed, zero-emission E10e, based on our legendary E10 ZTS mini-excavator, which is a leader in the 1 tonne category with over a fifth of the market share.”**

## ***Game Changer for Indoor Work***

When doing indoor work such as demolition and digging out basements, there are very specific requirements. Until now, there has been no standard OEM solution for such work – many jobs had to be worked on manually with less effective tools or with aftermarket conversions providing third party machine adjustments (that often did not meet desired standards). The new E10e is a unique proposition in this area.

Developed at the Bobcat EMEA Innovation Center, in conjunction with electric vehicle suppliers, the E10e is based on the design of the very successful diesel powered E10 1 tonne mini-excavator, which has achieved sales of over 10,000 units in just 10 years (the E10 is now called the E10z to reflect that it is a ZTS mini-excavator).

The new E10e has the same ZTS profile and identical external dimensions as the standard E10/E10z machine and offers equal or better performance. For example, the E10e offers very low noise levels on site with an LpA of only 71 dBA vs 80 dBA for the standard E10/E10z.

Furthermore, all of the systems and components on the E10e have been optimized for work in harsh environments – the patented electrohydraulic powertrain system fully utilizes the electric motor capabilities and all electric powertrain components are fully sealed, meeting the IP65 rating and also designed to meet construction equipment requirements for robustness.

As the new machine is designed to be used in demanding indoor applications such as breaker work in demolition, it is equipped with auxiliary lines and an efficient oil cooler system for continuous hydraulic breaker operation. The cooling system capacity has been increased to meet extended demolition application requirements.

## ***Full Working Day on the Job***

The E10e has a state-of-the-art lithium-ion, maintenance-free battery pack with an advanced management system, designed to fit within the standard machine envelope to maintain the machine's ZTS profile.

Based on customer studies, Bobcat has optimized the battery pack to provide capacity to match typical work patterns. Using an external 400V supercharger functionality, the E10e when used with normal work breaks, can operate throughout a full working day and can be recharged to 80% of the capacity in less than 2 hours. The battery can also be recharged overnight by using the on-

board charger from a standard 230 V grid. Plus the new E10e is easy to maintain and safe to operate – due to the use of low voltages, there is no need for operators to have special authorisation to work with the E10e.

## ***Amazingly Compact***

Like the E10/E10z, the E10e is easy to transport. In addition to the access provided by its retractable undercarriage reducing its width to only 710 mm, the integrated foldable TOPS (Tip Over Protective Structure) facilitates passage through openings with low headroom, for work inside buildings and in basements.

Once the excavator is positioned and ready for work, the undercarriage on the E10e can be expanded to 1100 mm, for maximum stability in all working conditions. The E10e's minimal width enables excellent manoeuvrability in confined spaces, while the ZTS design is an additional advantage when working in tight areas.

Another of the features that differentiated the E10/E10z from other machines on the market is the patented side adjustable consoles which accommodate hydraulic pilot pressure controlled joysticks. This design is unique in its class and is retained in the E10e, allowing the operator to enjoy the comfort and feel of much larger machines, whilst being able to adjust the width of the consoles for easy passage through narrow openings.

The E10e offers the same safety features for operators as the E10/E10z. A grab bar provides assistance for getting onto and off the machine. Entry and exit from the excavator is also made easier thanks to the completely open, flat area for the feet in the operator station. This design makes it easier to clean the area for the feet.

The design of the E10e ensures that the boom offset cannot reach the feet, providing maximum protection in this area. Operator safety and comfort is further enhanced by the completely retractable seat belt on the E10e. Both the left and right consoles on the E10e, which serve as comfortable arm rests, need to be lowered and locked in order to operate the machine. The position of the joystick consoles/armrests on the E10e can also be adjusted to suit different operators.

With its safe, near silent, zero-emission transmission, the E10e electric mini-excavator expands the successful features and high performance of the E10z for working in confined spaces. As a result, Bobcat is confident that the E10e provides a very attractive solution for contractors and rental companies alike - for indoor demolition, basement projects and works in other sensitive areas where low noise and/or night time work are mandatory.

To find out more about the E10e electric excavator, please visit [www.bobcat.com](http://www.bobcat.com).