Case Study | Construction

Wacker Neuson



The Wacker Neuson Group is a global manufacturer of light and compact construction equipment with humble beginnings. In 1848, it was founded in Germany under the name of Wacker, when Johann Christian Wacker opened a blacksmith shop in Dresden, Germany. Since then, through decades of innovation, integrity, and unrelenting progress, the company has grown into an internationally operating group of companies with a dense worldwide sales and service network.

Wacker Neuson's goal is to meet the wide variety of requirements and needs of customers around the world. When the time came to fill a market gap in the 4-ton compact tracked excavator market, Wacker Neuson filled it with the development and launch of its ET42. The model was designed using voiceof-customer research findings that showed that North American customers not only wanted more power and performance in a smaller package, but also improved visibility and comfort for the operator. The new ET42 delivers all of this and meets U.S. EPA Tier 4 Final requirements.



Customer

Wacker Neuson Group

Location

Menomonee Falls, WI

Engine model

Perkins® 403J-E17T

Application

Compact tracked excavator

OEM website wackerneuson.com







Designed with operators in mind

With the ET42, customers from contractors to farmers get the power, performance, and reliability they need for demanding tasks, such as when digging in confined areas like in utility and landscape applications. And with the 3-point kinematic bucket linkage system, operators can dig deeper and dump higher. The system offers a 200-degree angle of rotation that combines excellent breakout force with a greater range of motion, and provides increased digging depth. Additionally, the bucket can rotate further to keep the load more secure before dumping.

And because Wacker Neuson understands that a comfortable operator is a more productive operator, safety, comfort and convenience were considered from top to bottom in the design of the ET42. The ergonomic cabin was designed for all-day comfort, with standard air conditioning, a phone charger and holder, air-cushioned seat, adjustable arm rest, and a floor that allows the operator's feet to rest at a comfortable angle. The precise, load sensing joystick controls are all conveniently located, including an electronic ISO/SAE changeover switch within easy reach.

It also offers a smoother ride with dual flange rollers in the undercarriage that improves stability and decreases vibration when digging. Plus, operators get optimal all-around visibility with a newly designed low-profile hood design and expanded side window glass, which allows them to see the front of both tracks. Productivity also gets a boost thanks to the hydraulic quick connect system that allows attachments to be changed in seconds without having to leave the cab.

Customers not only wanted more power and performance in a smaller 4-ton class package, but also improved visibility and comfort for the operator – all of which are delivered by the new ET42.

Powered by Perkins

Having powered numerous machines with Perkins engines over the years, Wacker Neuson once again turned to Perkins to determine the right engine for its new excavator model. Working in close collaboration with Perkins, Wacker Neuson engineers ultimately chose to power the ET42 with the Perkins® 403J-E17T 48-horsepower diesel, water-cooled, 3-cylinder turbo engine. The engine is an ideal fit for the compact excavator, says Martin Spandl, technical project lead at Wacker Neuson.

"With the combination of the high-powered, smaller diesel engine and an electronic-controlled hydraulic pump," he explains, "we can run the machine more dynamically and can run the maximum available torque of the engine. The pump system and the engine system work together in a completely new way at this power size. And the electric override allows the operator to limit the torque of the pump depending on the load, so the engine isn't overloaded."

The ET42 is testament to Wacker Neuson's collaboration with both Perkins and its customer base, demonstrating the company's dedication to listen to the wants and needs of its customers and work together with others to meet those demands.



The **Perkins® 403J-E17T** delivers an impressive 166 Nm of torque, enabling users to easily downsize.

