Diverto puts loads of diversity into the multipurpose QS100

The QS100 is a one-machine fleet, offering contractors a tractor, an excavator, a loader, and a boom mower — all in one.
In 2010, Leonard Huissoon made it his mission to design a truly unique, multipurpose industrial vehicle platform—offering four machines powered by one engine. Five years of hard work and two awards later, the first QS100 units are being delivered to eager customers. Why do they choose this all-season maverick over traditional excavators and loaders? Because it’s four machines wrapped into one.

Though Huissoon’s route proved challenging, his patience and efforts have definitely paid off. In 2010, the Diverto QS Proof of Concept won the Innovation Medal at the GaLaBau trade fair in Germany, and in early 2015, the QS100 was awarded the prestigious Red Dot Best of the Best product design award.

The QS100 offers an all-season, four-function solution in a single machine. It’s a tractor, an excavator, a loader, and a boom mower, all in one. Its flexibility is further extended by its ability to operate some 200 attachments. Diverto currently owns around 10 patents, three of which are for the QS100’s unique folding boom.

**Full flexibility at the operator’s fingertips**

Huissoon and his colleagues put a lot of thought into designing a machine that would be loved by both owner and operator. At the core of the QS100 concept is its tractor-style platform with a 3-point hitch, PTO, and professional boom mower application. The platform can rotate 360 degrees and carries a fully equipped cab and 6-meter (19-foot) folding boom—all engineered to give the operator a full, unobstructed view of the job at hand. Switching from excavator to loading mode is simple and fast: done in only 60 seconds.

It took the Diverto team two years to design intuitive operator controls, explains Huissoon. “The joystick movements and buttons are the same as on traditional machines. An operator familiar with a traditional excavator will find the controls identical, so he can be up and running immediately.” What’s more, the cab has room for two people; handy for municipalities and landscapers that often use two-person teams. And the on-road, tractor-homologated QS100’s top speed of 40 km/h (25 mph) makes moving from site to site quick and effortless.

With its diversity and ease of use, the QS100 is a real must-have for small- and medium-sized contractors. “Our customers can expand their range of activities with a one-machine fleet, and use it for various tasks so it doesn’t waste time standing idle,” Huissoon says.

**Balance of power**

A machine that has to handle multiple functions requires a reliable, powerful engine. “The prototype shown at GaLaBau carried a 58-kW (80-hp) engine but this proved too light. So we replaced it with a PowerTech PWX 4.5L Interim Tier 4/Stage III B engine rated at 86 kW (115 hp),” comments Huissoon. “It has extremely good torque.”

The relatively heavy weight of the engine compared to its power provides a good counterbalance to the boom, without the need for a casting. Placing the DOC/DPF behind the driver also helped to keep the hood short, resulting in a tail swing of only 45 centimeters (18 inches).

Huissoon acknowledges the transitions to Interim Tier 4/Stage III B, then Final Tier 4/Stage IV and, eventually, Stage V, are challenging for everyone. “Adjusting the engine platform increases production costs, but since the QS100 is four machines in one, you only need one engine to power four applications. All in all, that’s a good equation.” Supporting the integration of the Interim Tier 4/Stage III B engine in the QS100 was Dutch engine distributor NPS Diesel B.V., which showed “great dedication and expertise.”

**Global potential: the four corners of the earth**

Recognizing the potential of this maverick machine, companies around the world are already contacting Diverto for information and distribution rights in their own countries. Diverto’s partnership with VDL Group in Eindhoven—which assembles the QS100—is critical for the young company’s global aspirations. Diverto is also working to expand its dealer network, screening interested companies to make sure they meet the company ethos. “Knowing that John Deere engine service locations are well-represented worldwide reassures us and our customers,” Huissoon concludes.

Distributor: NPS Diesel B.V., Ravenstein, The Netherlands; www.npsdiesel.com