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Safe and accurate filling of crop protection products

The Xamount is a new system for filling liquid crop protection products into sprayers without the risk of splashback. In combination with a weighing system, the technology enables precise dosing even when measuring out small quantities. We meet Dutch farmer Wilbert Siebring to talk about his experience with the system.

CTS technology ensures that plant protection products are filled securely into the sprayer, keeping operators and the environment free from contamination. Although several versions of closed transfer systems have been available for some time, none have yet gained a strong foothold in the market.

At Agritechnica 2023, German spray specialist Lechler presented its LeC system, since renamed Xamount. The company claims the latest design not only speeds up the filling process but also delivers a higher level of accuracy, particularly when handling small amounts. Several prototypes are already undergoing field tests in different countries. Together with Harald Kramer, a crop protection technology specialist from the Chamber of Agriculture in North Rhine-Westphalia, we visited a Dutch farm where the Xamount was in use in the 2025 season. CTS is high on the agenda of Dutch farmers, as the government is debating new regulations that would make closed transfer systems mandatory by 1 July 2026.

SPECIAL CROPS GROWER

Together with his son, Wilbert Siebring runs a 150ha arable farm in Nieuw Dordrecht just outside Meppen in the Emsland region, where they grow a mix of barley, sugar beet, French fry potatoes, carrots, onions, chicory and valerian – all of which demand a wide range of crop protection products and fairly regular spraying intervals. Spraying is carried out by a CHD sprayer equipped with a 39m boom, a 6,300-litre spray tank and nozzles spaced at 25cm.

VIDEO
on
this article
www.topagrar.com/
Xamount2025

Wilbert Siebring tells us that he applies €150,000 worth of products each year, but says his decisions aren't driven by costs alone. Precision and compliance matter most. Keeping a watchful eye on restriction policies, he argues that the farming industry must avoid any action that might lead to further restrictions. To that end, he recently invested in a drone which maps out his fields in preparation of spot spraying applications. Early results are promising: this season he cut the treatment area for volunteer potatoes in a 12ha carrot field to just 0.8ha.

> **"The farming industry must avoid any action that might lead to further restrictions."**
>
> Farmer Wilbert Siebring

The Xamount filling system comes housed in a round plastic casing. Going to market in January 2026, it will be available either as a standalone rack-mounted unit, similar to the Siebring setup, or as a permanently installed fixture at the filling station. The Xamount connects to the sprayer via the suction line using a splash-free dry coupler. It also requires a clean water feed and a 12V power supply to operate

NO ADAPTER REQUIRED

The Xamount is compatible with Easyconnect caps, which – thanks to a BASF initiative – are now being adopted by a growing number of crop protection manufacturers. These sealing dust caps have an internal lid that's automatically opened and closed by the transfer system, so there's no need for adapters or for manually peeling off the sealing film.

The Lechler Xamount is designed to handle containers of up to 20 litres. Wilbert Siebring gave us a demonstration of how the transfer system emptied a 5-litre container that was filled with red-coloured water.

As a first step, he removed the sealed dust cap and placed the container on the unit. Then, at the touch of a button on the touchscreen display (under the Manual menu), he started the process. First, a clip locks the lid and the container in place. Then, an electric motor drives a lance fitted with a spray head up into the container from below. In this process, a special mechanism at the top engages with the internal lid of the cap. The upward moving action opens a circular gap, allowing the liquid to flow quickly into the suction line and into the sprayer.

When the container is emptied, the unit starts the automatic rinsing process during which the spray head pivots through a defined cleaning path, flushing the inside thoroughly. There's no need for the operator to touch or rotate the container manually. By running a second cleaning process after filling the jug with the particularly sticky blue ISO test fluid (as seen in our video), we were able to verify that the clean water rinsing function is indeed exceptionally thorough. The cleaning cycle currently takes 60 seconds, but it can be stopped early or run multiple times if required. After rinsing is completed, the lance returns to its

◁ In the picture, the lance pushed the lid up and into the container. The Xamount is dosing a small quantity into the sprayer.

Photos: Höner

◁ Farmer Wilbert Siebring tested the system together with his son.

home position while pushing the Easyconnect cap's internal lid back into place, sealing the container. The cap's exterior is then automatically washed down.

Farmer Siebring says he is impressed by how quickly the container is emptied and cleaned. He doesn't think that he could achieve the same speed or thoroughness using the traditional open-fill method. A further benefit is that immediate rinsing prevents any residues from drying on the walls of the jug — ensuring every last drop of costly chemical ends up in the sprayer and is not wasted.

WEIGHING SYSTEM FOR PRECISE SMALL-VOLUME DOSING

One of the standout features of the Xamount is its ability to meter small volumes accurately – a point often raised as a weakness in other closed transfer systems. Rather than relying on flow meters, the R&D team at Lechler opted for three integrated weighing cells. The main advantage is that these load cells are never exposed to the product itself, which improves reliability and ensures consistent accuracy across liquids of varying viscosities.

The function is enabled from the Automatic menu. A clever cumulative filling option allows operators to empty several containers containing the same product one after another and draw only a specific amount from the final container.

Once the process begins, the system asks you to enter the product density, which it converts into volume. Most crop protection liquids sit within a density range of 0.9 kg/l to 1.5 kg/l. A specific figure can be checked on the online database maintained by the German product approval agency BVL.

Wilbert Siebring admits he currently notes down his product densities on bits of paper, which isn't ideal. Yet Lechler is developing solutions to make this step more convenient — such as by providing density data through an app-based database. Another concept discussed during our visit was fitting each Easyconnect cap with an RFID chip that would store product information, including density.

The smallest volume that can currently be metered is 150 ml. During dosing, the valve opens and stays open until the desired quantity is nearly reached, gradually closing as it approaches the target volume.

When the transfer is complete, the lance retracts, pushing the inner lid of the Easyconnect cap back into its sealed position. Then the valve and the cap exterior are rinsed automatically, marking the end of the partial-dose process. If the container is to be returned to storage afterwards, it's good practice to refit the external dust cap for full closure.

Our test farmer reports that the dosing process runs extremely precisely. He says it feels far safer, is more accurate and far more convenient than using a traditional measuring jug. And, of course, with no jug involved there's no washing-up afterwards. However, because his spray programmes usually involve three or four different products per tank mix – sometimes even up to eight –, and with application rates varying between 300 litres/ha and 700 litres/ha, Wilbert often has to adjust the product density settings several times a day. As things stand, the system doesn't yet store those density values automatically.

He also sees scope for speeding up the process, noting that small-volume dosing still feels rather slow. Early field tests with the first few prototype units showed that the weighing cells needed a short period to stabilise before recording an accurate reading. Based on the findings of the field tests, including those at the Siebring farm, Lechler since finetuned the hardware and software, shortening the overall process time.

Still, Wilbert Siebring points out that using a measuring jug may just 'feel' faster, because you're doing the task manually rather than twiddling your thumbs, waiting for the automated process to finish.

Overall, the Dutch farmer says he's delighted with the system, particularly praising the quick emptying and thorough automatic cleaning processes, as well as the precise dosing of small amounts.

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KEEPING IT BRIEF

Wilbert Siebring tested the new CTS system from Xamount on his arable farm. The system requires no adapter.

Small volumes are metered by integral load cells.

After the container is emptied, it is rinsed by the cleaning lance.