

Optimise performance, reduce costs

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The new Swingo high-performance suction nozzle impresses with some strong advantages

As small and inconspicuous as a compact sweeper such as the Schmidt Swingo200+ may be, the technology concealed within is equally complex and sophisticated. From the disc brush to the pressure water recirculating system to the waste hopper, all components are perfectly coordinated with each other. But the heart of any sweeper is the suction nozzle. The “eye” of the sweeper technology plays a majority role in the performance. It is not just the sweeper result that depends on the sensitive technology. The noise generation and fuel consumption are also dependent on it. And last but not least, maintenance costs for the heavily used castors or damper mechanism are normally a major factor in the long-term expenses of the machine.

With the motto “Optimise performance, reduce costs”, Schmidt is presenting a new high-performance suction nozzle in the spring of 2015, which impresses with a considerable increase in performance while saving up to 15% operating costs at the same time.

The new suction nozzle is suitable for Swingo models with shunted 2-brush system and is available with immediate effect as an option. It is possible to retrofit machines that are already in use.

From simulation to the patent

The new patent-pending development was preceded by extensive computer simulations. The objective: a flow-optimised suction nozzle with extra high suction capacity even with a low blower fan speed. “We were able to simulate the best form of the suction nozzle and its inner workings using special software,” says Tobias Weissenrieder, product manager at Schmidt. “We ensured that so-called dead zones in the air flow were eliminated and a homogeneous suction capacity was created.”

The heart and technical masterpiece of the new suction nozzle is the integrated debris flap. At the push of a button and hydraulically, the driver can adapt the flap flexibly. Coarse debris, such as plastic bottles, cans and large amounts of leaves, can be reliably and easily collected with an open debris flap. If the degree of openness is reduced or the flap is closed, the air flow increases at ground level – small and fine particles of

debris are then vacuumed up more effectively. For the driver, this means that he can react rapidly to the different types of debris. In addition, debris is now prevented from “rolling away” when turning through a side guide.

The new high-performance suction nozzle impresses with “noticeable” advantages

The integrated spring release of the complete suction nozzle reduces the wear and tear of components considerably and the rollers are cared for due to the lower strain. But it is not just maintenance and replacement parts costs that can be saved with this new technology. By reducing the suction fan speed, the output of the diesel engine is also reduced. In specific terms, this means a saving of up to 15% or 1 litre of fuel per operating hour, as well as the considerable reduction of CO₂ emissions.

With 1,500 sweeping hours per year and fuel costs of € 1.30 per litre, this creates an annual advantage of € 1,950 and 3,930 kg less of CO₂ emissions.

But the advantages of the new high-performance suction nozzle are not just measurable in terms of money. They can also be heard with the naked ear: the lower speed of the suction fan and engine mean that the noise generation is reduced by 2 dB – a bonus for both driver and the environment.

The new high-performance suction nozzle in the endurance test

Since spring 2014, the new suction nozzle has been tested in practice throughout the world. The new technology has been put through rigorous testing in Goes in the Netherlands as well. In the municipality with about 37,000 inhabitants, the Schmidt Swingo is in use seven days a week – from the heavily frequented shopping streets to quiet residential areas. The surfaces being swept here are made mainly from natural stone and brick paving. Jan-Willem Bruel, an employee of the municipality of Goes, has travelled about 6,000 kilometres with the new suction nozzle. As a “Swingo expert” since the very first generation, he has a good feel for technology Schmidt produces. Jan-Willem Bruel believes the new high-performance suction nozzle has a considerable added value. The castor rollers combined with the integrated suspension proved themselves to him. The test showed that the wear and tear of the rollers and the flap was considerably lower. An audible advantage for him was the quieter mechanism of the debris flap and the lower engine speed. His only wish to the Schmidt team: that he could keep the new suction nozzle.

Source: Aebi Schmidt Holding AG