**New Accumulator Cylinder from Freudenberg Boosts the Efficiency of Farm Equipment**

**System Design and Use of Aluminum Yield Major Weight Reduction**

**Weinheim (Germany), April 18, 2018. The larger a tractor’s footprint, the less it compacts the soil. To minimize compaction, global machinery manufacturer CLAAS has introduced a tractor with a track drive that integrates newly developed accumulator cylinders from Freudenberg Sealing Technologies. They combine the functions of a hydraulic cylinder and a hydraulic accumulator in a single system. This makes installation easier and lowers the risk of leakage. The use of aluminum also reduces the system’s weight.**

In agriculture, ever-larger cultivation and harvesting equipment requires huge tractive forces – and that means heavier, more powerful tractors. In combination with intensive field use, they lead to greater soil compaction, which makes working the land less efficient. Rain runs off it less easily, making the soil muddy, and tractors with conventional drive systems sink too deeply. But with the pilot version of the AXION 900 TERRA TRAC, CLAAS has now introduced a tractor with a suspended track drive. The vehicle was awarded a silver medal at the 2017 Agritechnica trade fair in Hanover (Germany). The CLAAS machine offers improved propulsion along with a larger footprint for less ground contact and soil compaction. Newly developed accumulator cylinders from Freudenberg Sealing Technologies are a key contribution to its objectives.

Accumulator cylinders combine the functions of hydraulic cylinders and hydraulic accumulators and are standard in hydraulic systems.  The disadvantage of earlier solutions is that tubing connects hydraulic components, cylinders and accumulators, making the systems hard to install. The tubing can also lead to hose or line breaks, resulting in leaks. This is especially true in mobile applications where vibrations can damage connections. In response, Freudenberg has bundled the formerly individual parts into a single optimized system whose components flawlessly interact with each other. Another advantage of the new accumulator cylinder is its material: aluminum. The use of this lightweight metal, which is processed with the cold forming method, reduces the machine’s overall weight by about 50 kg compared to conventional steel designs. Thanks to its compact construction, including integrated hydraulic control, the new accumulator cylinder is also suited to small installation spaces.  In all, three accumulator cylinders are built into the AXION 900 TERRA TRAC. Two of them function as suspension cylinders for the drive and guide wheels; the third provides the right amount of tension to the rubber track – and the required frictional contact.

The new lightweight component is based on an existing system that Freudenberg further developed in close cooperation with CLAAS. “Agriculture is facing the major challenge of meeting growing food needs in the future. With the know-how we have gained over the years, we are using advanced technology to help farmers make food production more efficient,” said Angelika Mulac, Vice President of the Mobile Machinery business unit at Freudenberg Sealing Technologies. “Our development work with CLAAS is a strong example of this.”

*image: FST linear compensator.jpg*

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**About Freudenberg Sealing Technologies**

Freudenberg Sealing Technologies is a longstanding technology expert and market leader in sealing technology and electric mobility solutions worldwide. With its unique materials and technology expertise, the company is a proven supplier for demanding products and applications, as well as a development and service partner to customers in the automotive industries and in general industries. In 2017, Freudenberg Sealing Technologies generated sales of about €2.3 billion and employed approximately 15,000 people. More information at [www.fst.com](http://www.fst.com)

The company is part to the global Freudenberg Group which, with its Business Areas Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products as well as Specialities and Others. In 2017, the Group generated sales of approximately €9.3 billion and employed more than 48,000 associates in around 60 countries. More information is available at [www.freudenberg.com](http://www.freudenberg.com).

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