**Perfect Tire Pressure For Every Terrain**

**Sealing solutions from Freudenberg Sealing Technologies for central tire inflation systems offer major advantages**

**Weinheim (Germany), August 15, 2024. Freudenberg Sealing Technologies has made significant technological improvements to its seals for central tire inflation systems (CTIS) used by construction and agricultural machinery. These seals automatically adjust the tire pressure of off-highway vehicles to varying ground conditions and vehicle loads. Simply by pressing a button, drivers can now save time, reduce CO2 emissions and simultaneously extend the service life of their tires.**

Tilling fields with a tractor for row crops is very different from driving a truck on roads. But at least in one respect, these heavy vehicles have something in common: The tire pressure greatly impacts their performance. Optimally inflated tractor tires conserve fuel, allow farmers to work faster and reduce soil compaction, whereas over-inflation leads to soil damage and reduced efficiency. Similarly, trucks with correctly inflated tires are safer on the road and can better handle temperature and pressure variations. Incorrect tire pressure results in premature tire wear and dangers at high speeds while making the vehicle less dynamic and more difficult to handle.

To meet these challenges, Freudenberg Sealing Technologies has developed a range of seals for various CTIS applications in heavy-duty vehicles. These systems combine cutting-edge material and design expertise with advanced electronics and sensor technologies, specifically tailored to meet the demands of heavy-duty applications. They offer an automated CTIS function and are installed directly in axle applications on the vehicle manufacturers’ assembly lines.

“Freudenberg’s seals for central tire inflation systems conveniently adjust the tire pressure to ground conditions, eliminating the need for drivers to leave their cabs to operate manual CTIS systems. This saves time and significantly improves driver safety,” says Jens Wolfram, Global Segment Director, Mobile Machinery Agriculture, Freudenberg Sealing Technologies. “Current systems with external cables are vulnerable to premature failure, as any damage to the system or cables puts their components at risk. Freudenberg’s CTIS sealing solutions are housed within the wheel hub, which protects them from external influences during agricultural operations. This is a distinct advantage and unique selling point compared to external systems from competitors.”

**Key advantages of Freudenberg’s CTIS**

Central tire pressure control systems must be designed to meet the specific needs of each application – and the systems from Freudenberg Sealing Technologies deliver exactly that. At the same time, they adjust the tire pressure according to road and ground conditions as well as vehicle load. These systems save fuel, reduce excessive vehicle wear and decrease vibrations, offering the drivers a more comfortable ride.

Freudenberg’s CTIS technology features an innovative, double-lipped sealing component mounted inside the wheel hub. This design separates the oil in the wheel hub from the compressed air entering the tire, absorbing the compressed air flowing to and from the tire. This eliminates the need for a hose mounted on the outside of the tire. An air lip ensures stable CTIS operation at pressures up to 8 bar and circumferential speeds up to 4.5 m/s. The seal is pressure- and speed-optimized, which reduces the vehicle’s power loss. Freudenberg’s system offers the lowest power loss compared to conventional tire inflation systems, as the air pressure is equalized on both sides of the sealing lip. The resulting force minimizes the radial load on the sealing lip.

Freudenberg Sealing Technologies has already supplied CTIS sealing systems in series production for over 15 years, securing additional contracts with renowned manufacturers of agricultural and construction machinery and their suppliers. The CTIS system is manufactured in the company’s various production plants worldwide.

“The North American heavy-duty vehicle market in particular has been seeking solutions to system aging caused by high speeds and temperatures in heavy-duty applications,” Wolfram noted. “We are the right partner with the right technology to offer our customers the solutions they need. Freudenberg’s CTIS solutions save fuel, reduce carbon dioxide emissions and extend service life – all at the push of a button. It’s a real benefit to our customers.”

*Image: FST\_IMG\_CTIS* / *©Freudenberg Sealing Technologies 2024*

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**About Freudenberg Sealing Technologies**

Freudenberg Sealing Technologies is a longstanding technology expert and market leader for sophisticated and novel applications 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 2023, Freudenberg Sealing Technologies generated sales of about 2.6 billion euros and employed approximately 13,100 people. More information at [www.fst.com](http://www.fst.com).

The company is part of the global Freudenberg Group which has four business areas: Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products as well as Specialties and Others. In 2023, the Group generated sales of almost 12 billion euros and employed approximately 52,200 associates in around 60 countries. More information is available at [www.freudenberg.com](http://www.freudenberg.com).

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