

Press release

Liebherr presents new Smart Tyre Saving System

- Liebherr presents an intelligent system to reduce tyre wear of a Reachstacker
- The new system reduces the machine speed to cool down the tyres before they reach a critical temperature
- Staying below the critical tyre temperature is crucial for good service life time
- Higher efficiency and less tyre wear are a contribution to sustainability and clearly benefit the environment

Before the tyre temperature of a Liebherr reachstacker reaches a critical level where tyre wear would increase excessively, the new Smart Tyre System automatically reduces the machine speed. As soon as the tyres return to a low temperature level, the power is increased again. This ensures maximum performance and protects the tyres from excessive wear.

When considering the life-cycle costs of a reachstacker, the tyres play a significant role. It is also known that overheating of the tyre is one of the main reasons for premature tyre wear. Liebherr engineers therefore took up the challenge of developing an innovative countermeasure. Customers who operate their reachstacker for more than eight hours at a time generally experience high tyre wear, regardless of which reachstacker manufacturer or tyre brand is used. The tyres tend to get very hot the longer they are used at a stretch. To prevent overheating, some customers generally reduce the speed of the reachstacker, which leads to a loss of performance and therefore efficiency.

The newly developed Liebherr Smart Tyre Saving System estimates the temperature increase of the tyre based on the axle load and the speed of the reachstacker and only reduces the speed if it is necessary. This allows the reachstacker to run at full speed until the tyres threaten to become hot. As soon as the point of increased overheating is reached, the machine is briefly throttled back systemically until the tyres have reached a temperature again that does not cause increased wear. The rider can then continue to ride at full speed.

How the system works

In several field tests, the correlation between the so-called TpKh (tonnes times kilometres per hour) value and the tyre temperature could be determined. The TpKh value relates the tyre load to the actual speed of the reachstacker and thus shows the development of the thermal tyre load. Tracking this value during operation enables a sensible reduction in speed to cool down the tyres before they reach a critical temperature. A major advantage: no additional temperature sensors are required for monitoring.

Reduces tyre wear and increases efficiency

Until now, it was common practice to generally reduce the speed of the reachstacker to avoid thermal overload of the tyre. This approach was accompanied by a general loss of handling performance. With the intelligent tyre protection for Liebherr reachstackers, a suitable solution is now available to increase handling performance and save tyre wear at the same time. The advantages are obvious. Tyre wear is reduced and thus the service life of the tyre is significantly extended. This contribution to sustainability clearly benefits the environment and also saves downtime. In addition, the short-term decrease of the machine's power does not unnecessarily reduce the general efficiency of the reachstacker. The higher efficiency and lower tyre wear save the equipment operator a lot of money in the long run.

About Liebherr-MCCtec Rostock GmbH

Liebherr-MCCtec Rostock GmbH is one of the leading European manufacturers of maritime material handling solutions. The product range comprises ship, mobile harbour and offshore cranes. Reachstackers and components for container cranes are also included in the product portfolio.

About the Liebherr Group

The Liebherr Group is a family-run technology company with a highly diversified product portfolio. The company is not only one of the largest construction equipment manufacturers in the world, but also provides high-quality and user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 140 companies across all continents, employs more than 48,000 staff and in 2019 achieved combined revenues of over 11.7 billion euros. Since its foundation in 1949 in Kirchdorf an der Iller in Southern Germany, Liebherr has

been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers.

Images



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