



ZF's Electromechanical Steering Systems Sets a New Standard for Electric Forklifts

- **Electromechanical power steering for three-wheel front-drive counterbalance forklifts**
- **Tried and tested technology, proven since 2015**
- **For counterbalance forklifts with up to 2 tons lifting capacity**

ZF, as market leader for driveline solutions for electrical counterbalance lift trucks, has set a new standard in the steering systems sector. The electromechanical steering system went into volume production in 2015 and has since been used by many manufacturers, and has been a proven success there.

EPS 3 – Product highlight

This electromechanical steering system (image 4) replaces the existing hydrostatic steering systems in three-wheel front-drive counterbalance forklifts. The electric lift truck thus follows the course plotted by the passenger car industry over the last few years: the move from hydraulic steering systems to energy-efficient electrical steering systems.

Key features of electromechanical steering:

- Energy savings of over 10% in the driving cycle
- Installation is far easier in forklift
- Functional safety level: Performance level D
- Ideal for use in combination with ZF eTRAC GP 25 front wheel drive (image 3) for maximum maneuverability
- Variable adaptation of the steering ratio
- Improved ergonomics
- Complete plug-and-play system with mechanical, electrical, electronic and software functions all from one source
- Available from 36 V to 48 V



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EPS 3 is a joint development from ZF and ZAPI, the market leader in electronic steering systems for forklift trucks. The two companies have combined their specific expertise to develop this product and put a system on the market which is uncompromising in its ability to meet the high requirements of modern counter- balance forklift trucks.

An overview of the benefits:

- Robust
- Low-maintenance and low-wear
- Long service life
- Energy saving
- Improved driving ergonomics
- Service-friendly and safe
- Two-channel implementation of the most important electronic and sensor elements

OEMs in all major markets have already opted for EPS 3. The technology thus takes its position amongst ZF's existing product innovations and represents an important milestone in energy conservation for the future.

Captions:

- 3) ZF eTRAC drives set a new benchmark with regard to efficiency levels.
- 4) EPS 3 electromechanical steering system offers an energy saving of more than 10% over its driving cycle.

Images: ZF

Press contact:

Alexander Eisner, Head of Product Communication for Machine Systems

Phone: +49 (0)851 494-2175, e-mail: alexander.eisner@zf.com



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ZF Friedrichshafen AG

ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company has a global workforce of 146,000 with approximately 230 locations in some 40 countries. In 2017, ZF achieved sales of €36.4 billion and as such, is one of the largest automotive suppliers worldwide.

ZF enables vehicles to see, think and act. The company invests more than six percent of its sales in research and development annually – in particular for the development of efficient and electric drivelines and also in striving for a world without accidents. With its broad portfolio, ZF is advancing mobility and services for passenger cars, commercial vehicles and industrial technology applications.

For further press information and images, see www.zf.com