

Press information

## **LiGO injection systems – the new generation of sustainable injection technology**

- With LiGO injection systems, the Liebherr components product segment introduces innovative injection solutions for climate-friendly fuels, such as hydrogen, methanol, ethanol and ammonia
- Whether for retrofitting or as a new development, the modular systems are flexible and efficient, taking a decisive step towards sustainable mobility

With LiGO injection systems, the Liebherr components product segment is launching an innovative product family specifically tailored to the demands of the mobility transition. The platform consolidates all new injection solutions for climate-friendly fuels under one roof. Thereby, LiGO represents Liebherr's renowned quality and technological excellence. The "Li" symbolises Liebherr's tradition and reliability, while "GO" stands for progress - towards sustainable, future-ready propulsion concepts.

Baden (Switzerland), February 4, 2025 - LiGO injection systems are the answer to the increasing importance of climate-friendly fuels, such as hydrogen, methanol, ethanol and ammonia. With a broad portfolio, the product family offers solutions for single-fuel and dual-fuel applications. The existing engines also allow retrofitting to meet the requirements of various applications.

### **Efficient solutions for gaseous fuels**

LiGO offers port fuel and direct injection systems with a standardised platform design. This enables efficiency and flexibility in upgrading engines for different combustion concepts, since fewer different parts are used, which simplifies production and maintenance. A highlight of the portfolio is the single-fuel solutions with 100% hydrogen for spark-ignited combustion concepts. The LPI hydrogen injector for port fuel injection and the LDI hydrogen injector for direct injection operate with different injection pressures and offer performance characteristics similar to those of diesel engines.

The LiGO family for hydrogen includes the LPI injector specially designed for port fuel injection at pressures from 2 to 15 bar. It made its debut in an innovative Liebherr wheel loader prototype, the L 566 H, which was presented for the first time in 2024. Another member of the family is the LDI injector, developed for direct injection with pressures of 5 to 30 bar. It is ideal for high-performance applications with a driving behaviour similar to diesel engines. Finally, the LiGO family counts the H2 rail and the LRM control block, which are used for the stabilisation of pressure and fuel quantity control. On top, they are equipped with comprehensive diagnostic and safety functions. The modular platform design allows for easy adaptation of components to different engine concepts and applications.

## **Liquid alternative fuels: flexibility in focus**

For liquid alternative fuels such as ammonia, methanol and ethanol, LiGO injection systems offer solutions that retrofit existing diesel engines or enable new engine concepts. The port fuel injector for liquid fuels is based on the design of the hydrogen injector. With its high flow rate, it is particularly suitable for high-performance engines. The portfolio is complemented by an independent, electrically driven fuel pump currently designed for methanol.

One of the members of the LiGO family for ammonia, ethanol and methanol is the LPI injector for liquid alternative fuels, which was developed on the basis of the hydrogen injector platform for the pressure range from 5 to 30 bar. The family also includes an electrically driven fuel pump that allows packaging independent of engine design.

## **Integrated systems solutions and safety**

Another key component of the LiGO injection systems product family is the LRM regulation module, which serves as a central unit for fuel quantity regulation and pressure control for hydrogen. Paired with the rail, designed for PFI or DI applications to stabilise and regulate pressure, a fully integrated system solution is available with all necessary safety features.

With LiGO, Liebherr sets a new standard for sustainable injection solutions. The combination of proven technology, an innovative platform strategy and flexible application options supports the industry on its journey toward more sustainable propulsion systems.

## **About the Liebherr-Components AG**

In this segment, the Liebherr Group specialises in the development, design, manufacturing of high-performance components in the fields of mechanical, hydraulic and electric drive and control technology. Liebherr-Component Technologies AG, based in Bulle (Switzerland), coordinates all activities in the components product segment.

The extensive product range includes combustion engines, injection systems, engine control units, axial piston pumps and motors, hydraulic cylinders, slewing bearings, gearboxes and winches, switchgear, electronic and power electronics components, and software. The high-quality components are used in cranes and earthmoving machinery, in the mining industry, maritime applications, wind turbines, automotive engineering or in aviation and transport technology. Synergy effects with other product segments of the Liebherr Group are used to drive continuous technological development.

## **About the Liebherr Group – 75 years of moving forward**

The Liebherr Group is a family-run technology company with a highly diversified product programme. The company is one of the largest construction equipment manufacturers in the world. It also provides high-quality, user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 150 companies across all continents. In 2023, it employed more than 50,000 staff and achieved combined revenues of over 14 billion euros. Liebherr was founded by Hans Liebherr in 1949 in the southern German town of Kirchdorf an der Iller. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers. Under the slogan '75 years of moving forward', the Group celebrates its 75th anniversary in 2024.

## Images



Injection systems

**LiGO**

**LIEBHERR**

liebherr-logo-ligo-i-njection-systems.jpg

The LiGO injection systems brand represents a family of products that provide a possible answer to the requirements of the mobility transition.



liebherr-ligo-product-range.jpg

The LiGO product family offers innovative injection solutions for climate-friendly fuels, such as hydrogen, methanol, ethanol and ammonia.

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## Published by

Liebherr-Components AG

Baden / Switzerland

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